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THE BRITISH
GYNÆCOLOGICAL JOURNAL.

VOL. X.

THE BRITISH GYNÆCOLOGICAL

JOURNAL: 

BEING THE JOURNAL OF

THE BRITISH GYNÆCOLOGICAL SOCIETY.

VOL. X.

EDITED BY

A. D. Leith NAPIER, M.D.



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THE BRITISH GYNÆCOLOGICAL JOURNAL.

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MAY, 1894.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

FEBRUARY 8, 1894.

T. SAVAGE, M.D., F.R.C.S., PRESIDENT, IN THE CHAIR.

PRESENT: 35 Fellows.

SPECIMENS.

MULTILOCULAR OVARIAN CYST AND TUBE WITH THICK WALLS, BELIEVED TO BE THE RIGHT HORN OF A BICORNUATE UTERUS. By MAYO ROBSON, F.R.C.S.

The patient, aged 34, was the mother of three children, the youngest of whom was 9 years of age. There had been pelvic discomfort and pain at intervals for nine years. The tumour was noticed five years ago, since when there had been increased pelvic distress. Since, June, 1893, she had been unable to work, and had lost flesh and strength. Bimanual examination revealed a tumour moving with the uterus, the body of which was pushed to the left, and admitted the sound for the normal distance. Percussion gave dulness up

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I

to the umbilicus, and showed a tumour inclined to the right side of the abdomen.

Operation, January 13.—A tumour was removed, consisting of a cyst of the right ovary ; this was lying to the right of a tube, believed to be the right horn of a bicornuate uterus, which was also removed ; its attachment was low down in the pelvis. On the left of the left cornu was a normal ovary. Drainage was necessary owing to the oozing of blood from the numerous torn adhesions. The patient made a good recovery.

TWO PAPILLOMATOUS CYSTS ATTACHED TO RIGHT OVARY.
By MAYO ROBSON.

Of the two cysts, one contained, when removed, a pint, and the other two pints, of dark fluid ; they were both growing from the right ovary of a woman aged 56. The first cyst was adherent deeply in the pelvis, and was attached by a small thin pedicle to the lower part of the ovary. The second had a longer pedicle, fixing it to the upper part of the same ovary. This second pedicle had become twisted by rotation of the cyst, producing a violent attack of peritonitis three weeks before operation. The left ovary was quite healthy and was not removed. Drainage was employed for two days on account of oozing from the torn adhesions. The patient recovered.

MYOMA OF THE UTERUS. By MAYO ROBSON.

The growth was removed by the intra-peritoneal method described by the author in the *British Medical Journal* three weeks ago.

The patient when seen was profoundly anæmic from frequent and profuse metrorrhagia extending over seven years. Operation was advised five years before. As the ovaries were situated deeply in the pelvis, behind the tumour, they could only be exposed by bringing the uterus forward through the abdominal incision ; hence it was thought that hysterectomy

would be better than simple removal of the appendages. No drainage was required. Recovery occurred without an untoward symptom.

He believed the first two specimens were uncommon, and therefore of sufficient interest to bring before the Society. The third was brought forward as illustrating a method of operating.

The PRESIDENT remarked that the second specimen seemed to him, from a short examination, to be an example of papillomatous tumour of the kind that often affected both sides, and gave rise to the presence of fluid in the abdomen.

Dr. LEITH NAPIER said that both cysts appeared to be papillomatous, the one wholly, and the other partly. The second cyst had such thin walls that it seemed to have originated from a parovarian cyst. The first specimen shown, with the tube which was believed to be a horn of a bicornuate uterus, was of special interest; and the case would be of great value if the subsequent history were recorded, which Mr. Mayo Robson would no doubt be willing to do.

Mr. TAYLOR asked if there were a trace of Fallopian tube at the end of the supposed cornu.

Mr. REEVES, after remarking on the interest possessed by the specimen of the two cysts, went on to say that he was very glad that in performing the hysterectomy by which the third specimen was removed, Mr. Mayo Robson had adopted the method which he first recommended; it was simple, and comparatively easy. He would like to dissect the specimen further; for Mr. Mayo Robson had stated that the indication for the operation was hæmorrhage; and it was often found that in such cases the uterus also contained a fibroid growth or a polypus in its cavity.

Dr. BANTOCK said the Society was much indebted to Mr. Mayo Robson for the trouble he had taken in coming a long distance to show them such interesting specimens. He had not met with a case like the first one shown, in the course of a tolerably large experience; and it was one of special interest. But of even greater interest was the specimen of

the two cysts, which seemed to him to be an exaggerated condition of that form of growth known as Rokitansky's tumour, and which he believed to be malignant; there was here an evidence in favour of this view, in that both sides were papillomatous. But in this case, instead of numerous cysts arranged in a grape-like fashion, there were only two.

In his own practice he had operated on a young lady with numerous cysts springing from the ovary; some of them had burst before operation. She recovered from the operation itself and went home; but in two months she was dead from recurrence.

As regards the myoma, he would congratulate Mr. Mayo Robson on the successful issue of the intra-peritoneal operation; but he did not understand Mr. Mayo Robson to advocate it in all cases. He assumed that in this case the conditions were favourable for the intra-peritoneal method; but it had been proved by statistics that the extra-peritoneal method gave the best results. He had been somewhat amused by a case reported by a surgeon at a general hospital, who quoted Schröder's statistics as showing the good results of his operation; in reality those results were bad, but had been much improved upon. It was evident that in quoting those results the gentleman was not *au courant*. In a case he had lately of a small pedunculated tumour of the uterus falling into the pelvis, he thought the extra-peritoneal method would be the best; it was a hard fibroid attached to the cornu by a small pedicle. He was tempted to follow his usual plan and adopt the extra-peritoneal method; but as the patient was a young married lady, and the ovaries were healthy, so that there was a possibility of her becoming pregnant, he felt that the intra-peritoneal operation was indicated. It was, however, difficult, and there was much hæmorrhage, so that he had to use a drainage tube. Several ounces of blood were subsequently drawn from this tube. This confirmed the opinion he had of the intra-peritoneal method. Among 19 cases of pedunculated fibroids treated by the extra-peritoneal method, he had had no deaths; of the last 43 cases of supra-

public hysterectomy treated by the extra-peritoneal method, he had lost only three.

Mr. JESSETT said the third specimen reminded him of the method he had advocated, of taking out the whole uterus, and bringing the peritoneal flaps through the vagina. He had shown specimens at the Society a short time ago illustrating this. This plan had the advantage that if there was any hæmorrhage or oozing there was a free drain through the vagina. In the ordinary intra-peritoneal operation, when the peritoneum was laced over the stump there was a possibility of a hæmatocele forming and breaking down into pus; whilst if the uterus were quite removed, and the flaps properly inverted, a valve was formed which effectually prevented any after-communication with the peritoneal cavity. If necessary, a drainage tube could also be inserted. For a small myoma, this seemed to him a better operation than cutting the uterus across; an abdominal hysterectomy was practically by this means turned into a vaginal hysterectomy.

Mr. MAYO ROBSON, in reply, said that on the subject of hysterectomy and the lacing of the peritoneum, he could answer Dr. Bantock's and Mr. Jessett's questions together. He did not expect to have oozing in these cases, and purposely plugged the cervix with iodoform so as to keep the parts aseptic. He then stitched the flaps together, after which he carried a continuous stitch right across, which could be done very quickly. This procedure left no opening through which blood could ooze into the peritoneal cavity. The amputation of the uterus was carried out at the level of the os internum, by means of an incision comprising a wedge-shaped portion front and back, and then two V-shaped flaps. He agreed with Dr. Bantock that this should be an eclectic method; and for his part he always went provided with a Kœberlé. To no one so much as to Dr. Bantock was he indebted for the good results he had had, especially since he had adopted the dry method. He had had fifteen consecutive recoveries from hysterectomy; so he had a good opinion of the extra-peritoneal method. It was chiefly to save the

long convalescence that he preferred the intra-peritoneal method; and when it could be done, he adopted it in preference. Still there were times when rapidity in operating was an important consideration, and then he employed the extra-peritoneal plan. He should be glad to have the specimens examined, in order to ascertain the nature of the cysts, and the presence or absence of a Fallopian tube in the first specimen. Dr. Bantock's remarks about the cysts were interesting; the operation was performed six weeks ago, and he had not seen the patient since. The wound healed by first intention. If further change occurred he would report it to the Society. The prognosis, as Dr. Bantock pointed out, was modified by the fact that in this case there was no rupture of the cysts before operation, as there was in Dr. Bantock's case.

A UTERUS WITH FIBROID ON RIGHT SIDE AND LEFT OVARIAN CYST. By DR. HEYWOOD SMITH.

The patient, aged 48, had been married twenty-four years, and a widow three-and-a-half years, and had borne no children. The catamenia, which began at 13, had been regular; seven years ago they became freer. In March, 1890, the uterus was prolapsed and quite outside; it remained down more or less ever since, and she was consequently laid up. She had had pain in the right inguinal region for fifteen months. He saw her a month ago, and on examination found that there was a fibroid on the right side of the uterus, the cavity of the latter being $4\frac{1}{2}$ inches long. Abdominal palpation showed the presence of a soft tumour on the left side of the uterus. The cervix, which was very soft and flabby, projected two inches out of the vulva.

On January 20, assisted by Mrs. Scharlieb and by Dr. Buxton, who gave the anæsthetic, he operated, five others being present, including Dr. Schacht. The vagina having been previously syringed with corrosive sublimate solution, the uterus was pushed up, and the vagina packed with sal-

alembroth gauze. Through an abdominal incision of 6 inches in length, the uterus, together with a tumour growing from the fundus, was drawn out. A ligature was placed round the left ovarian artery outside the ovary and tied. The right ovary was drawn out, and found to be as large as a fist; this was ligatured and cut away. A second ligature was applied to the middle portion of the left broad ligament; and a third deep down, which included the uterine artery. The same procedure was adopted on the right side. The flaps were then marked out, and the peritoneum was stripped down. There was considerable difficulty in separating the bladder (into which a sound had to be passed). The uterus was drawn up, and gradually freed with scissors and finger. The end of the cervix was recognised with difficulty, owing to the flabbiness of the cervix and the thickness of the vaginal wall. There was very little bleeding. The peritoneum was sewn up with a continuous Bishop's stitch. The abdominal wound was closed in three stages: (1) with very fine chromicized cat-gut the peritoneum was secured; (2) the fasciæ and muscles were brought together with the same material; (3) the skin and fat were sutured with silkworm gut, passed with Reverdin's needle. The vagina was then packed with iodoform gauze. The operation lasted one hour and forty minutes.

The following day there was abdominal distension; for which a turpentine enema was given. She failed to rally, and died on the morning of January 22. The uterus, when cut open, showed three mucous polypi and a fibroid; the wall of the right ovary was very thick. There were two main cysts, one containing clear fluid, and the other a pale blood-stained jelly.

Dr. SCHACHT said that as he was present at the operation he would like to say a word about the cervix, which practically decided the question as to whether total or partial hysterectomy should be performed. By the latter the cervical condition would not have been relieved. This was the first time he had seen the total extirpation of the uterus by the abdomen, and he was surprised at the apparent ease of

the operation. The chief time was taken up by the dissection of the long cervix, which presented more difficulties than he would have anticipated. At the close of the operation the whole thing looked very complete, and it seemed to him that the operation was a very feasible one.

Dr. HEYWOOD SMITH added that he was not sure whether the best operation would not have been vaginal hysterectomy, even in unfavourable circumstances it seemed to have better results than total extirpation by abdominal section.

INAUGURAL ADDRESS.

By PROFESSOR THOMAS SAVAGE, PRESIDENT.

GENTLEMEN,—My first duty, as it is also my pleasure, is to offer to you my thanks for the very distinguished position you have raised me to by placing me in this chair, and to express to you my sense of the honour you thus confer upon me—an honour which it may be the laudable ambition of any man to aspire to. The departure which this Society, on its inception, made from the hitherto usual custom of London societies of electing from time to time a provincial Fellow to its presidential office showed, to my mind, a wisdom and a broad sympathy which other societies might copy with advantage to themselves: and not to my mind only, for I find that this generous spirit is highly appreciated both by country Fellows and others who do not belong to the British Gynæcological Society. This liberality is likely in the future to react in the direction of adding to the numbers and strength of the Society, and at the time might fairly be urged as one of the motives and justifications, among others, for founding a new society.

I am not vain enough to flatter myself that I am occupying the office of your president on my merits, but rather as the representative, for the time being, however humble, of provincial gynæcology. I can only trust that when my year of office is over, you will not feel that your

confidence has been misplaced. My election being the second occasion on which a Birmingham man has been your president, I am the more proud ; and I take it as an additional compliment to the Birmingham School.

I just now used the expression, "justification for founding a new society," and I fear I did wrong in doing so ; for, apart from the principle of occasionally electing a provincial president, the British Gynæcological Society has, every year since its birth, more than justified its existence ; and perhaps never more so than during the past year under the genial, kindly, and hospitable leadership of our esteemed ex-president ; and hence I am not called upon, even if it were necessary, to advance, on behalf of the Society, a kind of "*apologia pro vitâ suâ*." Its own work is its own monument.

The original object of this Society was, I take it, to advance the study, and thereby benefit the practice, of gynæcology by London, or rather by British practitioners : and its aim appears to have been, and successfully so, to be in touch with, if not ahead of, all that is modern in its own particular line of study. And that this object has been magnificently attained goes without saying.

There have been times in the history of medicine when the fear was that tradition might hamper progress. Especially was this the case with gynæcology at the commencement of the present reign of incessant inquiry, energetic enterprise, and ambitious activity : but in spite of the Conservatism of the older, and the Radicalism of the younger schools, very much advance has been attained of an enduring kind ; and the two opposite poles, the one *holding back*, and the other *hurrying forward*, they are now working along, almost hand in hand.

But medicine is an untiring and insatiable mistress ; we can never recline on our oars ; never "rest and be thankful : " she demands that we shall ever be marching on from one advance to another ; and the pioneer of to-day may become a fossil twenty years hence, if and when he once allows himself to stand still and to cease to grow.

It is a subject for congratulation that we are living in happier times than prevailed ten to twenty years ago. There is less bitterness now between opposing schools. Unworthy motives are not imputed to men who desire to break new ground, or are ambitious to conquer fresh foes.

During the past year the good work and advance of knowledge in the particular direction of carcinoma of the uterus, and its treatment by operation, are matters for congratulation to our Fellows, especially those who have assiduously worked thereat. The effect of this is that the operation has been established on a firm basis as a justifiable one, that very great relief may be obtained by it in suitable cases, and that the early recognition of suitable cases is likely to be more frequent. But time is required to bring about all that we want even in this particular operation. We want to know more exactly the cases best suited for operation, the average addition to life which the operation gives, and especially something more of the details, which are known to be most conducive to a successful result in operating. Time, aided by careful observation, will, however, bring about these desiderata. No two surgeons would perform the same operation exactly in the same manner. Above and beyond some inconsequent details some operators would, in a given case, apply more, and some would apply less, of the best details; and what is wanted is that the best of all should be made use of by all. The importance of this principle will be more and more manifest when it is universally admitted, as it is beginning to be, that when death occurs after such operations as abdominal section, it is due much more frequently to causes connected with the details of the operation, and therefore personal to the operator, than to any other cause. Hence, as long as any deaths occur after operations, which may be attributed to the operation, we shall be far off from finality in our art. And because the personal element possesses such an enormous influence in success or failure—for good or for ill—we must ever be striving to attain to that high ideal—no deaths at all.

Probably during the coming year ventro-fixation of the uterus for prolapsus and some kinds of retro-displacement will engage our attention, and here a few months will be sufficient to elucidate what are the best methods of performing the operation, its safety in regard to mortality due to the operation directly, and its benefits in regard to effecting relief or a permanent cure of the condition for which it was undertaken; also the contra-indications, such as the presence of too extensive or firm adhesions, the presence of inflammatory products connected with the appendages, &c. I say a few months will tell us all this; for, with the improved methods of operating, the mortality ought to be very slight indeed in simple uncomplicated cases. It is to be expected that only where extensive adhesions have to be undone, as in some cases of retroflexion, the element of danger presents itself; and here we ought to be able to overcome such by careful drainage. I think that the general consensus of experience of shortening the round ligaments has been that it has been tried and found wanting.

On the Continent, complete extirpation of the uterus by the vaginal method has been proposed and practised for complete prolapse; and it has seemed to me, so far, that in a few cases of complete prolapse in women who have passed the menopause, and are therefore incapable of future conception, and to whom their condition makes their life a burden, this operation may be offered as an alternative. Seeing that the uterus, is completely outside, and in full view, the operation is a simple one to perform, and should not be associated with more risk than ventro-fixation.

By many gynæcologists both these operations may at first be considered heroic in the extreme—perhaps too heroic—and it must be borne in mind in judging of the advisability of recommending, and the justifiability of performing them, that they are operations of expediency rather than of necessity, and are undertaken for conditions which do not threaten life. Therefore the risks and objects of each should be plainly laid before the patient, and it should be for her to

elect or refuse to submit to undergo them. At the same time we often find that the discomfort is so unbearable, and the inability to enjoy the pleasures, and perform the duties of life is so great, that it is justifiable to incur some amount of risk for the prospective advantages of a successful issue; and many suffering women are quite willing to incur this. In the Paris Academy of Sciences, last December, Dr. Lejars related two successful cases, up to which time there had probably been thirty or forty operations for this extreme condition. An objection has been raised that the operation has been followed, within a short time of its performance, by a slight prolapse of the vaginal wall. To obviate this, certain operators insist on the necessity for excising a large piece of the vaginal wall, while others recommend the vagina to be fixed in position by stitching to the peritoneum above. Dr. Lejars prefers the removal of two large triangular flaps from the lateral walls of the vagina, followed by double colporrhaphy.

I have had some experience of the operation of extirpation for prolapse, and can testify to its facility and safety. A recent case was Mrs. N—, aged 46, a widow. She had not menstruated for four months. I had seen her on several occasions in 1883 and 1884, when she was suffering from an enlarged procident uterus, with the fundus backward. She then had a pessary placed, and the application of carbolic acid to the interior of the uterus. When I saw her again in October, 1893, I found her unable to get about on account of the uterus being always procident, and her only comfort was in bed. The uterus had been outside almost constantly for the past twelve months, and her general condition was worse for the last six months. The uterine cavity measured $5\frac{1}{2}$ inches. I put the whole circumstances before her—*i.e.*, the risk of a radical operation, and the fact that she had no further use for a uterus, the uncertainty of ventrofixation, which at present must be said to be still *sub judice*, and the total inability of any less radical operation of a plastic nature than the two above named to be of any service to

her. With the concurrence of her medical attendant she elected to have it done.

A report, at the end of January, 1894, from her attendant states the result has been all that could be desired, that she can walk well, and is in good health. In another case the patient was younger, nullipara, and had to work. She could not wear any kind of pessary, and had had a long course of rest in bed and other means. She and her husband were anxious to have the operation performed, after its details, effects, and risks had been fully explained to them both by her attendant and myself. With the exception that she has a slight vaginal prolapse, which is no trouble to her, the results are as good as in the first-named case.

Whatever our views may be as to the chief factor in the causation of prolapse, it is quite certain that to have a uterus considerably enlarged, and therefore much heavier than normal, dragging downwards constantly, and, by its weight, depressing the pelvic floor, must be a source of very great discomfort and inconvenience, and its removal must *pro tanto* be a relief. The weight being removed, opportunity is given for the pelvic floor to regain somewhat its normal state. The intra-abdominal pressure does not seem to be exercised uniformly in every direction. The effects of exertion and straining are shown much more strongly upon or against the anterior abdominal wall, as in the production of a ventral protrusion at the site of the scar after an abdominal section, than in a downward direction upon the vaginal roof.

Of course the consideration of the subject of hysterectomy for myoma is not yet complete, nor is it likely to be for some long time to come. It has become chronic. Myoma of the uterus is a hydra-headed monster, which needs all the resources of our art, all our judgment, and more than all our present dexterity to enable us to combat it successfully. The multitudinous and various suggestions and modifications of details for its performance are all good, more or less, and advance us by slow steps to that goal which we are all so anxious to reach. With our present lights, the risks are often

so enormous that I am inclined to think it is not now so frequently performed as was the case a few years ago ; certainly that is my own position and experience. Many men, I believe, decline to undertake it except in those desperate cases where the patient would manifestly die without it. Assuredly, one reason for its less frequent performance is the alternative which we possess in removal of the appendages, which operation is attended with such brilliant results, when it can be satisfactorily and completely performed, and is done early enough. And yet what a surgical triumph is hysterectomy when successful ! There is in the whole range of surgery nothing to excel it, few operations to equal it ! Every successful operation makes the performer of it proud of his art, and feel that there is still something to live for. The pity of it is that much too frequently the patient does not take the opportunity of having the surgical aspects of her case considered until so late in the progress of her malady. There is a too deeply ingrained idea in the medical mind that fibroids of the uterus are of little importance either to health or life, and that all will come right at the menopause. Of the recent suggestions for perfecting the operation, the majority have in view the shutting off of the peritoneum from infection—below, through the uterine canal ; and above, through the stump. In attempting the latter, where it is practicable, Mr. J. W. Taylor's method of passing the transfixion pins through the parietal peritoneum on each side may be tried with advantage. Though a modification in detail, I believe it is similar in principle to what was suggested by Dr. Bantock many years ago, and has been practised with success by myself and others—viz., making the suture above and the suture below the stump to include a portion of the stump on the proximal side of the clamp.

During the past year, especially in London, much attention has been given to the interesting and very important subject of inflammation and suppuration in the pelvis ; and advance is being gradually made towards a more perfect knowledge of its causes and pathology. Our interest becomes

more and more centred in the uterine appendages, and perhaps less so in the connective tissue of the broad ligaments; and we find that we are getting to have a much better knowledge of cases which are appropriate for operation.

But while we look with satisfaction upon the frequent cure, by operation, of cases which otherwise would be incurable, one cannot but feel at times that ablation of a diseased organ is not the ideal scientific method of curing it; and one is constrained to ask oneself, therefore, if we shall ever be able to find an alternative method? At present, with the lights of to-day, that time seems certainly a long way off.

"*Obsta principiis.*" Doubtless, prevention of those causes which are frequently at the bottom of such cases will be the first step in their diminution; and this may be looked for speedily, when the practice of aseptic and antiseptic midwifery becomes universal: as it ought, when brought about, to cut off all those cases which arise from direct infection of the parturient canal.

The progress of gynæcology in America has been very rapid, very striking, and very interesting to us in this country and in this Society. A few years ago medical men from the United States broke up their practices at home, and flocked over here and to the continent in considerable numbers. They studied and attended clinical work assiduously, and then returned home with the avowed intention of devoting themselves to special work, which appeared to have been hitherto entirely neglected in their own country. The result has been that now in every city of importance throughout the Union there are several experienced gynæcologists doing good and scientific work, and frequently occupying honourable positions as professors in medical schools. Our American *confrères* have shown a very remarkable enthusiasm in their work, and with the energy, characteristic of their race, are still making much progress. They have learnt of us, and we of them, and we hope to learn in the future much more. We are proud to number in our roll of Fellows of this Society many American physicians. It is to be hoped that the friendly

rivalry which exists at the present time may long continue a rivalry which aims at making the greatest advances, and doing the most good.

I am pleased to take this opportunity of recording my sense of the extreme courtesy which I personally have received at all hands from my American colleagues, and my admiration for them as a body of learned and honourable gentlemen.

There is one object which our Society has very much at heart, and that is, that general practitioners should be encouraged to take an active interest in its work. It is quite certain that in their busy and arduous lives they must meet, from time to time, with many interesting cases which it would be both instructive and profitable to us all to discuss in this place; and we should welcome them equally with, if not more than, many of the brilliant triumphs of modern surgery. The observations of men who have seen rare cases, and the ripper experience of "all-round" men would be most valuable. Dazzled perhaps by the more striking results obtained by surgery, there may be a fear that therapeutics and the medical aspects of gynæcology may not receive the amount of attention which they undoubtedly deserve; and here, at all events, is a fertile field in which the general practitioner may usefully direct his energies.

One great difficulty which the surgeon has to contend with is to keep in touch with his cases for any length of time after operation. He is aware, of course, of the immediate results of his operations; and perhaps in publishing these he is apt to make too much of them, valuable though they are both for comparison and emulation; but too often the ultimate results are imperfectly known to him, in consequence of the removal of the patient to a distant or unknown address. Would it be possible or practicable for general practitioners to make it a rule, when they meet with these cases in their daily rounds, to tabulate them, ascertain all details as to cure or relief obtained, and then to publish them, discuss them in our Society, or communicate them to the respective operators?

I cannot but think that such work would be of the most valuable kind, and it would aid us in arriving at conclusions very much more quickly than otherwise, without such assistance, we should be able to do.

Special points which, among others, it would be useful to inquire into and report upon would include the state of the general health of the patient; the more or less complete realisation of the object for which the operation was undertaken; the presence or absence of hernial protrusion at the site of the scar, at either its upper or lower end, when a drainage tube had been used; with any other particulars connected with it that might be worth knowing. Only these few points are noticed here. A careful examination of the patient by a careful observer would readily add others, if and when they were present; and fresh observations for inquiry would soon suggest themselves to men of an inquiring turn. General practice necessarily entails a life of more or less routine, considerable monotony and much fatigue, and I cannot but think that if some of our hard-worked brethren would take up some slight additional work upon the lines that I have briefly and imperfectly referred to, it would be greatly to their own advantage as well as ours, and it would certainly add a zest and interest to that large portion of their work which is so much taken up with apparently unimportant details.

In regard to one point just referred to—ventral protrusion after abdominal section—I question if there is any operator who can say, with any approach to accuracy, what is the frequency with which it occurs, or what are the most important factors in its production; whether and how far it is brought about by the length of the incision, the thickness and fat of the abdominal wall, the use of the drainage tube, the closeness or the method of application of the sutures, &c.

At the next meeting of the American Association of Obstetricians and Gynæcologists, a paper will be read by Dr. J. F. P. Ross (Toronto) on "The Causes of Death after Abdominal Operations," in which he will bring in the use of the

drainage tube. Such a subject would naturally include the various views of operators on the use of draining ; the particular kind of tube, and the mode of withdrawing the fluid ; a comparison of the syringe, with the use of iodoform gauze ; when the drainage tube should be removed, and how to determine when it is left in too short a time or too long a time ; how to obviate the infection of the wound after the retention of the tube for some days ; how far the tube acts as a factor in the production of a fæcal fistula. These and other points which would readily occur to anyone much engaged in abdominal work, might profitably be discussed by us.

For my own part I have always been inclined to a frequent use of draining, and my reason for this is that I have desired to err, if at all, on the safe side. I cannot recall any harm arising directly from its use ; nor have I thought, so far, that ventral hernia, at the site of the tube, has been more frequent than in cases in which it has not been used.

My experience tells me that the great majority of practitioners who are my contemporaries were not, when students, taught gynæcology in anything like a systematic manner, and that what they now know they have had to learn for themselves under many disadvantages, and also that at the present day the students of our schools are not taught the subject in a degree corresponding with its importance, and the rapid advances of modern gynæcology. This is a very serious matter for all concerned, especially as gynæcology has so entirely changed its character, is so essentially surgical, and cannot have its whole therapeutics included within the somewhat narrow limits of a glass speculum and stick of lunar caustic, or of some other equally contracted sphere, as appeared to be almost the case at one time.

There may be two causes for this : one the still enforced union of obstetric and gynæcological teaching in our schools ; and second, the present relation of special hospitals and the special departments of general hospitals.

In regard to the first it may, I think, be distinctly asserted that obstetrics and gynæcology, though sister subjects, can-

not be regarded as merely branches of the same subject, and being distinct and separate subjects, they should be taught by separate teachers, and not squeezed together by one teacher as if one subject. The consequence of the plan at present usually adopted, is that one or other suffers neglect, according as the sympathies of the teacher go in the one or other direction.

I stand open to correction, but I think I am right in saying that with the exception of the Newcastle School, the Yorkshire College of Medicine, at Leeds, and my own, Mason College, in Birmingham, every medical school in the United Kingdom allots to one professor, for a summer course, the two subjects of obstetrics and gynæcology, and, in some cases, throws in also the additional one of diseases of children. How is it possible, under these circumstances, to do justice to a subject so important as gynæcology has become? One which meets the practitioner at almost every step, and a knowledge of which is so essential to his successful work?

At the Yorkshire College there is a professor of midwifery (Professor Wright), and a lecturer on diseases of women and children (Dr. Hellier), who takes a course of lectures in the winter months. At Mason College the summer course is divided between the professor of midwifery (Professor Clay), and myself. Two-thirds of the lectures are delivered by Professor Clay, while one-third are allotted to me for gynæcology. At the Yorkshire College the diseases of children ought to be given to a separate lecturer; and certainly more than one-third of a summer course ought to be given for diseases of women.

As to the second cause—viz., the relation existing between the special and general hospitals, there is the initial difficulty of the absence, as a rule, of a school from the special hospital; and students are unwilling to attend lectures or clinical work which is not compulsory or necessary for their curriculum. Hence there is no inducement at the special hospitals to utilise to the full the clinical material which is so abundant; and there is the further difficulty which naturally exists in

using a special hospital for diseases of women to any great extent, seeing that one reason for the public support of these institutions is that the patients shall have the privacy which is thought to be unattainable at a general hospital connected with a school. This is the more to be regretted because—and here I am alone responsible for my own opinions—the greatest advances and the best work have for long been, and are being, done at the special hospitals, both in ophthalmics and gynæcology. If this statement is thought to be exaggerated or offensive, I must crave pardon on the ground of excessive partiality, and the narrowness of provincial pride and prejudice.

While it is thought by many that there is a tendency to split up medicine into too many special lines of work, and that perhaps we may at the present time not even have reached the limit, yet gynæcology stands out somewhat prominently on an assured and established basis; too secure now to be assailed upon its *raison-d'être*, and too strong in its accomplished and prospective work to be injured by cavil or deterred by scorn. Even the most inveterate impersonation of Tory principles is bound to recognise the revolution which has taken place since gynæcology has shaken herself free from obstetrics, and started on a free and unfettered course.

And we are proud to think that while gynæcology is among the youngest of the special lines of practice, she is among the most active, energetic and progressive. The remarkable rate of progress in numbers, as shewn by the phenomenal growth of this Society, and in influence throughout the whole medical body, sufficiently shews the need that existed for her divorce from obstetrics, and the high position she is destined to occupy in medicine in the future.

But an honourable and responsible position like this has its duties, and I take it that we, as representing the new departure, have two principal duties before us, which we shall do well to keep in view in this Society. The first duty is to make the utmost progress by observation and practice; and the

second is to communicate the results of our knowledge to others. The fulfilment of these two objects this Society has at heart during the coming year in advancing those *artes quæ prosunt omnibus*.

Dr. ROBERT BARNES said it was a great pleasure to him to move that the best thanks of the Society be given to the President for his admirable address, and that he be requested to allow it to be published in the transactions. Dr. Barnes went on to say that he had not been able of late to be present at the meetings of the Society ; but while in their midst that evening many pleasant memories had been revived. It was a great source of pleasure to him to hear the reverent tone in which the attitude of freedom in gynæcology was referred to in the address. There was in the provinces an amount of freedom that was denied to those who lived in London. Throughout his own career he had been trammelled by the want of it ; and in his pursuit of it he had been obliged to move from one hospital to another. He rejoiced, however, that he had in a measure been able to establish for others the right of every man to liberty of opinion and an unrestrained field of action. He thought that the light thrown on surgery by modern developments in gynæcology would more than justify the existence of their Society, which was not only a gynæcological but also a surgical society. In their work they had to deal with a part of the body where all the organs were under the direct control of the eye and hand ; this gave an exactitude to their work, from which it resulted that the pure surgeon would have to learn various lessons of worth from the gynæcologist. The address they had listened to would be a stimulus to further effort, not only among them but wherever their Journal circulated, that was, all over the world.

Dr. BANTOCK rose to second the resolution so gracefully moved by Dr. Barnes. The address was necessarily only a *résumé*, but it was full of suggestion for action in the future. In one of the London Societies lately, one man proposed that the surgeons should give up gynæcological operations to the obstetricians ; but it seemed to him that this suggestion did

not go far enough. He would have proposed that a special official should be appointed to teach gynæcology, as in the provincial schools. For himself, belonging as he did to a special hospital, he had no means of advocating such a measure : were he on the staff of a general hospital, he would urge that gynæcology should be more considered than it ever had been in the past. Surgery itself was indebted to gynæcology for the most important advances of recent years.

The PRESIDENT thanked the Fellows for their attentive reception of his address, and for the vote of thanks which they had accorded him on the motion of Dr Barnes, seconded by Dr. Bantock. He felt deeply sensible of the great honour they conferred on him in electing him to the chair, and although he could not hope to emulate the dignity, learning, and graceful courtesy of his predecessor, he should at least do his duty, as far as it lay in his power, and devote himself with his whole heart to furthering the interests of the Society.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, MARCH 8, 1894.

T. SAVAGE, M.D., F.R.C.S., PRESIDENT, IN THE CHAIR.

PRESENT : 34 Fellows.

NOTES OF THREE CASES OF VAGINAL HYSTERECTOMY,
WITH SPECIMENS. By FRED. BOWREMAN JESSETT.

Case I.—The first case is that of Mrs. S. J., aged 44. Married. She was admitted into the Cancer Hospital, having been sent to me by Dr. Heywood Smith on January 4, 1894.

Examination *per vaginam* and bimanually, the cervix was found to be hard, and the os thickened and somewhat nodular ; the body of the uterus is enlarged, and some bosses can be felt the size of filberts in the posterior wall of uterus. The uterus is freely movable. On January 9, with the assistance of Dr. Purcell and Mr. West, I performed vaginal hysterectomy in the usual manner, removing the tubes and ovaries. There was no particular difficulty in the operation. I introduced a glass drainage tube and packed the vagina with iodoform gauze, introducing a winged catheter into the bladder. The drainage tube was removed the next day, and ligatures came away on the 19th, ten days after the operation.

Remarks.—The chief interest in this case lies in the condition of the endometrium, which I thought had somewhat the appearance of early malignancy. Our pathologist, Mr. Plimmer, has made a careful examination and furnished me with his report. He says: "Right ovary enlarged, uterus measures five inches in length and is uniformly thickened. On section it shows commencing adenoid carcinoma growing

rapidly down into the body of the uterus, infiltrating diffusely with much small round-celled growth."

This, I think, points to the moral that in cases of doubt, when a patient consults us suffering from some uterine trouble it would be well to dilate the uterus and remove a small piece of the endometrium for microscopic examination.

Case II.—Mrs. F. P., aged 45, married, no children, sent to me by Dr. Heywood Smith, complaining of most severe pain, of bearing-down description. She came to me first in September. When under ether the uterus was found to be strongly retroflexed, and a rounded growth situated in the posterior wall. The uterus was straightened and a pessary introduced. This gave a little relief at first, but subsequently matters became very much worse, and she could not wear the pessary. She has always suffered much pain at her menstrual periods; loses very little, though more latterly.

Examination demonstrated that the uterus was retroflexed and the boss in the posterior wall, which had previously been felt, has grown a good deal. The whole uterus felt enlarged, and of the size of a cocoanut.

Vaginal hysterectomy was performed on January 23, the tubes and ovaries being removed. A good deal of difficulty was experienced on account of the size of the uterus, which was found to be studded with fibroids, and in fact it was found necessary to enucleate some of these before the uterus could be delivered. A glass drainage tube was introduced and the vagina packed with iodoform gauze in the usual manner. The drainage tube was removed at the end of forty-eight hours. The patient made a good convalescence, and left the hospital at the end of a month. All the ligatures have come away.

It may be said by some in this case, Why remove the uterus? Why not remove the ovaries and tubes only, when the uterine fibroids will shrivel? I would answer that the patient was in such extreme pain and begged for an operation, that after consultation with Dr. Heywood Smith and my colleagues it was deemed better to remove the whole organ.

My experience of removal of the ovaries and tubes is so uncertain that I did not care to risk it, with the hope of the patient being relieved from pain, or expecting the fibroid growths to shrivel up.

Perhaps the chief interest in this case is the size, and that I believe it to be only the second or third case of myomatous uterus which has been removed *per vaginam* in England, Dr. Heywood Smith's case being the first.

Case III.—A. M., aged 31, married, four children, sent to me by Dr. Johnson and Mr. Butler Smythe. Admitted into the Cancer Hospital, January 28, 1894, complaining of a foul-smelling vaginal discharge, sometimes stained with blood, said to have been first noticed two or three months ago. Has no pain. Examination disclosed a large cauliflower growth of the cervix, which bleeds readily on examination. The vaginal walls are free from disease, and the anterior and posterior fornices appear to be clear. Uterus freely movable. The growth extends a little more to the right side, and the tissues on that side are slightly thickened. On January 30 I removed the entire uterus, together with the tubes and ovary on the left side; on the right side, owing to the thickening alluded to, it was somewhat difficult to draw the ovary and tube down, and indeed to ligature it. I therefore contented myself with putting on two pairs of pressure forceps; by this means I was enabled, I think, to get clear of the disease. The vagina was packed in the ordinary way, and a drainage tube introduced. The pressure forceps and drainage tube were removed at the end of forty-eight hours, the vagina syringed out, and replugged with gauze. The patient has made a satisfactory convalescence. The ligatures were removed on the eighth day, also some slough caused by the pressure forceps. The ureter on the right side was compressed by the forceps, and urine came *per vaginam*; this is gradually ceasing.

Remarks.—In the first two cases, it will be observed, I removed the ovaries and tubes, and I consider it good practice to do so in all cases in women who have not arrived

at the menopause. In the last case I left the right ovary, and I hope this will atrophy. In some of my earlier cases in which I did not remove the ovaries and tubes, the patients complained of pain periodically afterwards, and in some cases the pain was very severe. It has been said by removing the appendages the sexual appetite is lost, and patients get into a melancholy frame of mind. This is not my experience, indeed, in some cases out of those I have been able to ask the question, the patients assured me that sexual enjoyment was increased.

With regard to Case II., and in similar cases, it may be open to question whether the growth might not have been more readily removed by adopting the combined abdominal and vaginal operation, as practised by Martin, with the difference that instead of lacing the peritoneum across the floor of pelvis, of turning the cut edges of the peritoneum down through the vagina as for vaginal hysterectomy, and as described by me at this Society at a previous meeting.

NOTES OF THREE CASES OF VAGINAL HYSTERECTOMY
(WITH SPECIMENS), AND A CASE OF SUPRA-VAGINAL
AMPUTATION. By F. A. PURCELL, M.D., M.CH.

*Vaginal Hysterectomy (1st Case), 25th of series. Reported by
Dr. Pethybridge, House Surgeon.*

Matilda N., aged 40, cracker maker, admitted January 2, 1894, into the Cancer Hospital, under Dr. Purcell. Married; three children, four miscarriages.

Family history.—Nil.

Previous illnesses.—Operated on for piles about a year ago. Syphilis several years ago (has a scaly eruption on palms of hands now).

History.—Has had a vaginal discharge for four months, not very offensive, no loss of blood except at periods and after syringing or examination. Pain in left hip and lower part of back. Has lost flesh.

Present Condition.—Rather pale, but looks fairly well. Tongue clean, appetite good; bowels regular. Heart, lungs and urine, natural.

Per vaginam.—Cervix is infiltrated by a hard growth. The left broad ligament is slightly affected, and the growth just reaches the vaginal wall posteriorly. The cervix is freely movable; the body of uterus is not quite so movable. No bleeding on examination.

January 13.—Vaginal hysterectomy performed in the usual way. Uterus drawn down with difficulty owing to adhesions, and anteversion. Broad ligaments short. Bladder was wounded, as flow of fluid showed. Good deal of hæmorrhage, and six pairs of forceps were left on. Vagina packed with iodoform gauze; a winged catheter passed into bladder. Somewhat collapsed after operation.

January 14.—Slept little. Complains of good deal of pain. Much urine in bed. No abdominal tenderness. Pulse 112, temp. 100°.

January 15.—Slept one and a-half hours last night. Complains of some pain. Pulse 108, temp. 100.6°. Packing and forceps removed. Packing soaked in urine; very little by catheter. India-rubber drainage tube inserted and fresh gauze.

January 16.—Given mag. sulph. ʒss., but vomited it; then enema, but very little result.

January 18.—Some offensive discharge. Very little urine in bed. Bowels not yet well opened.

January 19.—Enema of glycerine ʒi., water ʒi. Bowels acted well after it. More discharge.

January 20.—Morphia suppository, $\frac{1}{4}$ gr., last night. Complains of a good deal of pain. Ordered turpentine fomentations.

January 22.—General condition improved. Larger catheter introduced (No. 12). No urine in bed now.

January 25.—Bowels have been well moved for the last few days. General condition the same.

January 26.—Temp. 101° last night, 99° this morning. Still some abdominal pain.

January 28.—Temp. last night 102°, to day 99.6°. Considerable quantity of pus escaped on syringing. Pain much relieved.

January 29.—A good deal of thin pus coming away.

January 31.—Bowels for past two days freely open.

February 2.—Complains of a good deal of pain after douche, otherwise none. Discharge less. Takes her food better. Temp. at nights varies from 99° to 100°. Normal in mornings.

February 7.—Convalescing, and sitting up.

March 3.—The rent in the bladder was pared and sutured with silkworm gut; bladder was filled with water and found perfectly water tight.

(2nd Case) 26th of Series. Report by Dr. Pethybridge, House Surgeon.

Helen V., widow, aged 43, laundress; admitted January 27, 1894, into the Cancer Hospital, under Dr. Purcell. Twelve children and two miscarriages.

Family History.—*Nil.*

Previous Illnesses.—Nothing important.

History.—For past two months has had a discharge, often blood stained, sometimes offensive; pain in back and loins; has lost flesh.

Present Condition.—Not anæmic, tongue slightly furred, bowels regular, appetite good. Heart and lungs normal. Urine, 1020, acid, no albumen.

Per Vaginam.—Cervix occupied by a diffuse hard growth. The vaginal wall on the right side is slightly affected, and there is a considerable extension towards the right broad ligament. The cervix is quite free on the left side, but rather fixed on the right. The body of the uterus is movable; some bleeding on examination.

February 3.—Vaginal Hysterectomy. No special difficulty during the operation. The uterus came down well, and was fairly easily retroverted; removed with adnexa. Glass drainage tube inserted, and vagina packed with iodoform

gauze. Operation lasted one hour and five minutes, and patient stood it well. Self-retaining catheter lodged in bladder. After operation complained of much pain; given morphia suppository, $\frac{1}{4}$ gr. Good deal of oozing from vagina; all vessels were tied with silk, no forceps left on.

February 4.—Better this morning; pulse 78, temp. 99°. Some discharge withdrawn from tube by syringe. Patient has made an uninterrupted recovery.

(3rd Case) 27th in Series.

Maria G., aged 54, widow, monthly nurse. Admitted February 26, 1894, under Dr. Purcell. Seven children, two miscarriages.

Family History.—Nephew died in this hospital of cancer of rectum; daughter, aged 2 $\frac{1}{2}$ years, died of "tumour of stomach."

Previous Illnesses.—Nil.

History.—Had a discharge for twelve months. Often offensive; sometimes streaked with blood, but never large amount. Never any flooding; slight aching pain in lower part of stomach and back. Has lost flesh.

Present Condition.—Stout and looks fairly healthy; tongue clean, appetite fair, bowels regular. Pulse 80, good volume. Heart and lungs natural. Urine acid, no albumen.

Per Vaginam.—Vagina long and narrow, with a kind of contraction high up. Cervix is infiltrated with new growth. The broad ligaments do not appear to be affected. Body of uterus enlarged and elastic, but seems fairly movable.

March 3.—Vaginal hysterectomy performed. Whole of the uterus found to be diseased and very rotten, so that it tore on dragging it down; it was also bound down by adhesions. After much trouble the fundus was brought out through Douglas's pouch, and the uterus was then easily removed. There was much bleeding; no vessels were tied, but a number of forceps were left on. Patient very pale and collapsed after operation; given injections of hot brandy and beef tea.

March 4.—Scarcely slept at all. Good deal of pain. Pulse very feeble; no bleeding; temp. 97.6°. Brandy $\frac{3}{4}$ ii. and champagne.

March 5.—Temp. 99.4° this morning. Slept a little. Slight delirium at times during night. Sick once or twice. Pulse rather better. Nutrient enemata and suppositories.

March 6.—Slept badly. Temp. 102°. Pulse very weak. Sick at times. Takes soda water, brandy and champagne by mouth, with a little milk. Enemata and suppositories continued. Forceps removed and packing taken out. Syringed with iodine and strip of iodoform gauze inserted. Somewhat delirious in afternoon and evening. Pulse gradually getting weaker. Given hypodermics of ether, but little effect.

March 7.—Almost pulseless. Very cold and clammy. Temp. 97°. About 11 a.m. became unconscious. Breathing laboured. Died 1 p.m.

Observations.—When the neck of the uterus was torn away, a foetid accumulation of pent-up pus poured out from the body. The whole of the interior of the body of the uterus is eaten away with ulcerative carcinoma. The destructive amount of disease in the interior of the uterus in no way corresponded to the appearance of the os *per vaginam*. The operation lasted under one hour, and death is attributable to shock.

Supra-vaginal Amputation. Notes by Dr. Pethybridge, House Surgeon.

Annie T., aged 34, housewife; admitted Jan. 22, 1894, into the Cancer Hospital, under Dr. Purcell. Five children, one miscarriage.

Family History.—Nil.

Previous Illnesses.—Nil.

History of Present Condition.—Says she was quite well till October 4, 1893, when she had a miscarriage at five months. Was very ill, and thinks that some of the after-birth was left behind. Since then has lost a good deal of blood, and had offensive discharge. Much pain in lower abdomen.

Present Condition.—Looks fairly healthy. Tongue clean, bowels regular, appetite good. Pulse 64. Heart and lungs natural. Urine 1028 acid, no albumen.

Per vaginam.—Cervix is large and occupied by growth: not very hard, but nodular. Freely movable. Broad ligaments not affected. Body of uterus also movable. Some bleeding on examination.

January 27.—Supra-vaginal amputation performed under ether. Cervix amputated rather high up. Douglas's pouch was opened and the peritoneum brought well down and stitched to posterior lip of uterus. Glass drainage. Vagina packed with iodoform gauze.

January 28.—Had a good deal of pain and did not sleep much. Had $\frac{1}{4}$ gr. suppository. Pulse 72. Temp. 98·2°.

January 30.—Drainage tube and packing removed. Little discharge. Syringed and again packed. Temp. 98·8°.

February 2.—Syringed once daily and fresh piece of gauze inserted. No pain. Temp. a little raised at nights. Convalescing. Has since been discharged from hospital.

Pathologist's Report by Mr. Plinmer.

January 13, Case I., of N.—Uterus alone, with portion of left Fallopian tube. The uterus measures four inches in length, and is uniformly enlarged throughout, and especially so on the right side of the cervix. A piece from this portion was examined microscopically; it showed the growth to be a carcinoma, beginning in the glands, and becoming diffusely infiltrative.

February 3, Case II., of G.—Uterus, with both ovaries and Fallopian tubes, and portion of vaginal wall. The uterus measures three and three-quarter inches, and is enlarged uniformly. The growth affects the right side of the cervix principally, and the adjacent part of the vagina. Sections made from this part show the growth to be an epithelioma, which is rapidly growing, as shown by much small cell infiltration around the growth, and many karyokinetic figures in the cells of the growth itself.

January 27, Case III., of T.—Cervix of uterus with growth. Sections showed a typical quickly-growing epithelioma.

Dr. PARSONS said that he was very much interested in the first specimen; he would ask if Mr. Jessett could state whether the pathologist, when he described the growth as "adenoid carcinoma" meant "malignant adenoma." If the specimen was a malignant adenoma it possessed a special interest on account of its rarity. The condition had been described with care by John Williams. Pozzi in his latest work doubts its existence, and if he had not himself seen two cases, he should also be disposed to question its occurrence. An undoubted case brought under his notice was the subject of dispute between two eminent specialists, the patient suffered from serious hæmorrhage, from which she finally succumbed. In his experience these patients do not have a fœtid discharge, but there is loss of flesh, and hæmorrhage for which no satisfactory explanation can be found. In one case that had been seen by Dr. Williams, Dr. Bantock, and the late Dr. Edis, the diagnosis was very difficult, owing to absence of fœtid discharge and infiltration. After removal of the growth, microscopical examination revealed the condition described by Williams as "malignant adenoma." From these considerations it would be very interesting to know whether this case of Mr. Jessett's was malignant adenoma, or an ordinary cancer beginning in a gland.

Dr. LEITH NAPIER understood Dr. Purcell to say that in one of his cases, where the uterus was completely removed, no vessels had been tied. Was the hæmorrhage wholly controlled by clamps? The fourth case of Dr. Purcell's was like one of his own, the last one in which he had performed supra-vaginal amputation of the cervix. At the time of operation, there was a large growth filling the vagina, which had caused much hæmorrhage. While prepared to do whatever operation might be necessary, he found that supra-vaginal amputation would be much easier, and would clear the diseased portion. He sutured the remains of the fundus to the vaginal roof. The other day, six months after the operation, he saw the

patient, and found the parts in a very satisfactory condition ; the site of the wound was smooth and there was no trace of recurrence. While specimens were interesting, the after-history of such cases was even more important; and he hoped that later Dr. Purcell would be in a position to furnish them with the after-histories of his patients.

Dr. R. T. SMITH asked if Mr. Jessett sutured the peritoneal edges after removing the uterus. In the second case he thought it was a question whether hysterectomy was justified ; for his own part he should have preferred to remove the appendages, for it appeared to resemble the class of cases, of which he had seen several, where the symptoms were likely to subside with the menopause.

In the other case the growth was so small that he thought most operators would have been disposed to remove it by curetting ; he would like to know how long before the operation the patient's last pregnancy had occurred.

Dr. LYCETT observed that among the series of very interesting specimens shown that evening, there was one of malignant disease involving the fundus of the uterus : it showed the importance of examination of the uterus in every case of metrorrhagia ; for these cases were very apt to lead the physician astray, and he might treat the metrorrhagia on general lines, while the disease was making rapid progress. Such a case emphasized the necessity of complete and careful examination before pronouncing definitely on the nature of the disease.

Dr. HEYWOOD SMITH said, in answer to Dr. Smith's question, that he had seen Mr. Jessett's second case with him ; there was not a single nodule only, but the uterus contained a number of excrescences. The patient suffered severely from pain and it was thought at the time that this would not be relieved by oöphorectomy.

There was a question of ethics which he would like to raise. In Dr. Purcell's account of his cases the names of the patients were given in full ; was it either wise or right to give names in reports intended for publication ? He had had a

lesson on the subject some time ago ; for in reporting the case of a child, suffering from syphilis, he gave the initials only ; some officious friend called the father's attention to the report, and he was placed thereby in a very unpleasant position.

Mr. O'CALLAGHAN said that in his opinion Mr. Jessett's excellent results had led him further than most operators would care to go, for instance, removal of the whole uterus was a rather serious operation to undertake in order to deal with a small myoma ; in most cases of this kind myomectomy was found to be quite sufficient. He thought that every surgeon should consider a case very carefully indeed before proceeding to the complete removal of the uterus.

Mr. JESSETT, in reply, said that the pathologist thought the first specimen was one of adenoid cancer ; he could not say whether the pathologist regarded this term as synonymous with malignant adenoma. But the symptoms were as described by Dr. Parsons : no discharge, abundant hæmorrhage, severe pain, the uterus was very hard, and the sound passed four and a half inches. With reference to the second specimen there was no doubt room for difference of opinion as to the best form of operative procedure, but in any case myomectomy would not have sufficed, as the uterus was studded with nodules. The chief indication for operation was pain ; she had had preliminary treatment without relief, she was losing flesh, and was eager to have something done. Now the patient was well and happy.

Later histories were always important, and he was looking forward to the after-results of his cases. They would no doubt shed some light on a point at present obscure, viz., the relative liability to recurrence of different forms of tumour. He had found some varieties especially dangerous in this respect, viz., myeloid carcinomata and sarcomata, the latter particularly in old women. But careful study would show which cases were likely to do well, and which would probably return.

With reference to supra-vaginal amputation of the cervix, he agreed with Dr. Leith Napier that it was often the best

operation. He had several cases under observation where he had operated three, four, or five years previously. The diagnosis was confirmed at the time with the microscope, and the patients were still free from return. He quite agreed with Dr. Lycett as to the importance of examination in every case of metrorrhagia, for the patient might be allowed to drift on, with a comparatively healthy-looking os, while the interior of the uterus was being eaten away. In answer to Dr. Smith, he never sutured the peritoneal edges, but turned the flaps down into the vagina.

Dr. PURCELL, in reply, while thanking the Society for the way his communication was received, congratulated them on the different spirit which prevailed now as compared with 1887, when he brought before the Society four successful cases and was yet severely criticised. In reference to Dr. Napier's question, the reason he used forceps in the third case to control hæmorrhage was that the pelvis was so narrow that he thought he would not be able to get his fingers up high enough to tie the vessels. He always used the ligature when he could. The notes he had read out were the house surgeon's, as they were made at the time, hence the mention of names, but the initials only would be published.

A CASE OF HERMAPHRODITISM.

Mr. CHRISTOPHER MARTIN (Birmingham) showed a testicle removed from the inguinal canal of a hermaphrodite. The patient was 20 years of age, had been brought up as a girl, and earned her living as a nurse. She had never menstruated. Twelve months ago she was operated on by another surgeon for a right inguinal hernia, radical cure being performed. At this operation, a solid oval body supposed to be an ovary, was found in the sac, and returned into the peritoneal cavity. In January, 1894, she consulted Mr. Martin with reference to an inguinal swelling, which had formed on the left side. She also wished to know "why she was never unwell like other girls." Neither her features nor

her voice were masculine. There was no development of beard or moustache. The breasts were flat and poorly developed. The figure was slim but more suggestive of the female than the male sex. There was a distinct mons Veneris, but an entire absence of hair on the genitals. The scar of the previous operation was visible on the right side, but there was no hernial protrusion. In the left inguinal region was a small oval swelling, tender to the touch, and producing a sickening sensation on pressure. It was solid, and could not be reduced into the abdomen. There was no impulse on coughing. It was situated immediately over the external abdominal ring. The external genitals exactly resembled those of a nulliparous female. The labia majora and minora were normally developed. The clitoris was of the natural size; it was not grooved, and did not resemble a penis. On separating the labia the urethra was seen opening in the middle of a normal female vestibule. The vagina, however, was only represented by a short blind *cul-de-sac*, three-quarters of an inch deep, admitting only the first joint of the fore-finger. No trace of a cervix or uterus could be felt. The urethral canal was about one and a-half inches long, and was not surrounded by anything resembling a prostate. On introducing a sound into the bladder, and the fore-finger into the rectum, no solid body like a uterus could be discovered intervening.

As the inguinal swelling gave the patient much discomfort, Mr. Martin decided to operate. He made an oblique incision over it and laid open a serous sac enclosing an oval solid body about one inch long. This, on closer examination, proved to be a testicle, and the sac the tunica vaginalis testis. The gubernaculum testis was well marked, and passed into the tissues of the left labium majus. The testicle was freed from its surroundings, the cord isolated, ligatured, and divided, and the organ removed. The peritoneal cavity was opened at the upper end of the inguinal canal, the forefinger introduced, and the pelvis explored. No trace of a uterus could be felt, but the vas deferens could be traced—when the cord was dragged

on—as a tense band coursing backwards, downwards, and inwards by the side of the bladder. The gland on the other side could not be felt. The patent inguinal canal was then closed with buried silkworm gut sutures, effecting a radical cure. The patient made an easy recovery from the operation, and has remained quite well.

Professor Allan, of Mason College, has kindly examined the organ removed. It has a well-marked tunica vaginalis testis. The epididymis arches around the posterior border of the gland, and the globus major, the globus minor, and the digital fossa are normally developed.

On section the secreting tissue is seen to be enveloped in a tunica albuginea. Professor Allan has made a series of microscopic sections of the gland, which prove it unmistakably to be a testicle. The seminal tubules are shown in various stages of development, and in a few tubules imperfect spermatozoa may be distinguished.

It is extremely interesting to note that the patient's sister—two years her elder—has never menstruated, has infantile breasts, has no pubic hair, has only a short *cul-de-sac*, one inch long, for a vagina, and no signs of a uterus. At the time of the conception of both the father was insane.

Dr. LYCETT asked if there was any family history of sexual abnormality besides the case of the sister that Dr. Martin had spoken about.

Dr. LEITH NAPIER remarked that this was a most valuable case. In the most recently published work on malformations, viz., "Human Monstrosities," by Barton Cook, Hirst, and Piersol, the existence of hermaphrodites was doubted. He asked Mr. Martin if there were any ovaries in this case; if so, this would settle the point as to the possibility of true hermaphroditism. He hoped Mr. Martin would see his way to making a further and fuller communication about the patient to the Society.

A GYNÆCOLOGICAL QUESTION OF IMPORTANCE IN FORENSIC MEDICINE RELATING TO THE HYMEN. By MACNAUGHTON JONES, M.D., M.CH., M.A.O. (Hon. Causa), F.R.C.S.I. & E.

IT may not be without some sense of relief that you consent to divert your attention for a few brief moments from the discussion of pathological specimens and cases illustrative of phenomenal manipulative skill, to consider a medico-ethical question of special gynæcological interest. It cannot be denied that there are many medico-legal subjects of importance to the gynæcologist which might afford opportunity for valuable discussion. Is it not true that the gravest issues, even those of life and death, liberty, loss of character and reputation—more serious to some than the forfeiture of life itself—frequently hang upon the evidence of the gynæcologist? And is it not equally true that this evidence is occasionally founded upon a most superficial knowledge and cursory examination, whether clinical or pathological? This is the more sad when we realise the forces frequently arrayed against the accused. There are the bias of expert partisanship, the bias of the policeman and the detective service, the bias of the advocate and the bench, and the hydra-headed triplet of custom, red tapism, and legal precedent. Add to these antagonistic forces the exaggerated and mendacious reports, circulated through the modern coster curse of cheap literary wares offered to a curious or prurient public, which involve, in all their atmosphere of mystery or tragedy, that damnable half-truth which gossip or malignity so readily converts into the whole lie. The effigy of the victim is now-a-days hoarded with indecent haste long before the law steps in to secure him in its clutches.

There is, perhaps, no calling so exposed to such intentional, or unintentional, misrepresentations as that of medicine. This must ever be so, from the numberless delicate and intricate relationships we hold to patients, their relatives and friends; from the regrettable, but natural, intra-professional animosi-

ties and jealousies of rivals in competition, and from the many unavoidable accidents and errors of our professional lives. Hence it is to our advantage and interest as a body that the strongest safeguards that scientific medicine can secure should be within the reach of every incriminated person, and that we should make the *onus probandi* as heavy as possible for the accusers. While we by no means desire to shield the guilty, above all things we should strive to protect the innocent.

How constantly have we not read of collateral facts or circumstances having been strained, from the detective point of view, to the detriment of a prisoner, which to us, regarding them from the closer and clearer light of our personal medical experience, might be easily explained. The possession, position, or condition of a certain uterine appliance, the length of time and the circumstances under which a practitioner is with a patient, casual expressions carelessly let fall in the presence of some third party, who may either wilfully pervert, or unwittingly distort them, may be, and I fear, often have been, the cause of terrible suffering to the innocent man or woman.

But what I more especially here desire to notice is that confident self-assurance which occasionally in the witness box asserts itself in matters that require considerable and special pathological experience to decide. This is more noticeable in cases of disputed chastity, asserted attempts at abortion, and, more particularly in cases where a verdict in a capital charge may hang on the pathological proofs of mechanical violence, or other means said to have been used to empty the uterus. To give an opinion of such vital moment to another on the *post-mortem* appearances present in the uterus a considerable time subsequent to the assumed interference, must frequently be a matter of extreme difficulty. To venture on one during life is still more hazardous. Therefore it is that all such evidence should come from, or be fully supported by, skilled pathological and clinical experts, and should itself be subjected to the closest scrutiny.

These remarks I make as merely introductory to the

particular point which I now wish very briefly to call your attention to, and I shall limit them to its discussion. The various abnormalities of the hymen, from complete closure of the vaginal orifice to its absence, with or without other congenital peculiarities or malformations of the genital organs, it is unnecessary to refer to. That variety which has several times come under my notice, and to which I give the name of "folding," is the hymen of normal appearance and structure, but of a peculiarly yielding nature, readily admitting the passage of an ordinary vaginal dilator or a fair-sized speculum, in the passing of which it folds back against the vaginal wall, and returns quite intact on the withdrawal of the instrument. Though, of course, aware that the fact of an uninjured hymen, even to the point of delivery near the expiration of the full time of pregnancy, has been recorded, I did not at the time I determined to read this paper recollect that a few years since Professor Kinkead, of Galway, had made a valuable communication to the Academy of Medicine in Ireland, drawing special attention to the question of virginity in relation to unruptured hymen, until I was recently looking over the literature of the subject.

Before referring to a few of the cases instanced by him, I wish briefly to sketch the outlines of certain circumstances that may occur, in which this question of "folding" hymen is of vital moment. For particular and obvious reasons, I do not enter into the details of special cases which have occurred within my own knowledge, but I will place before you a few contingencies exactly parallel to such cases, one of which has more specially prompted the submission of this communication.

I.—A patient is brought for examination who has been recently married. A coolness has arisen immediately after marriage, owing to some difficulty having occurred in intercourse, which she ascribes to ineffectual efforts on the part of her husband. But, contra, he alleges that she has resisted, and feigned such great pain at the time that he had to desist. This coolness is accentuated by a suspicion of previous im-

purity on the part of the woman. Upon examination the hymen is found complete, but of the folding type. An opinion has previously been given that the woman was intact. Subsequently, disclosures proved that she had lived irregularly and had aborted previous to her marriage.

II.—A patient wishes to establish a charge of impotence against her husband. She has already been examined with this object, and pronounced intact. It is ascertained that there have been only a few occasions on which sexual intercourse can have occurred within a given number of months. She strongly resists internal examination, lest the hymeneal proof of her virginity should be destroyed. Looking at the hymen, it is found uninjured and normal in appearance. Casually, during examination, a slight supra-pubic enlargement is discovered. This arouses suspicion, which the appearance of the mammæ confirms. A vaginal examination is carefully made, and a perfectly yielding hymen is found of the nature described. Though told that she is pregnant, the patient persists in the denial of cohabitation having taken place, even to the point of endeavouring to produce medical evidence of her chastity in a case for nullity of marriage. She is, however, confined of a child at full time some six months subsequently.

III.—A most serious charge is preferred, which is in part rebutted by exculpatory evidence on oath that a man has had intercourse with a young girl, extending over a considerable period of time. The case is one in which the gravest issues are at stake.

The girl's cause is subsequently taken up by powerful friends, and she is submitted to medical examination. The hymen is found complete, and upon this fact, medical opinions are elicited that it would have been impossible, or at least improbable, that sexual intercourse could have been continued over such a length of time as that stated. She is brought for an expert judgment on this point.

The hymen is found as already described, but on a digital examination being made it completely yields and folds back.

Ultimately, without any force or difficulty, a fair sized conical speculum is passed, and also a comparatively large glass vaginal dilator, without the least injury. The opinion was given that frequent coition, partial or complete, was quite feasible under the conditions, but that *the chastity of the girl was not impugned*.

Nevertheless, legal pressure only stopping at the point of dragging an unwilling and hostile medical witness into court is unsuccessfully exercised to force an opinion that it was not possible under these conditions that repeated copulation could have happened.

These three examples are sufficient for my purpose. In them we have the following issues involved :—

In Case I.—The impotence of the husband, and the anti-marital chastity of the wife, as bearing on the question of nullity of marriage or separation.

In Case II.—The impotence of the husband and the problematical doubt raised as to the parentage of the child.

In Case III.—The perjury of the man and the chastity of the woman.

It is in cases of asserted attempt at rape, in which the previous chastity of the assaulted woman—or the one assumed to have been assaulted—is in dispute, that this question of a folded hymen may arise. An examination of the woman having been ordered to determine the doubt raised as to her former history, and an intact hymen being found, the evidence of any previous liasons might be rebutted by the medical evidence as to the condition of the hymen.

Quite recently I had under my charge a married woman whom I treated for some endocervicitis and erosion of the cervix, in whom I had no trouble whatever in passing the speculum I show you, and in whom there had never been the least difficulty in coition, though she had not conceived. The hymen was never injured by the passage of the instrument, the membrane simply folded back in tubular form as the speculum was pushed into the vagina, and returned again into its natural position on its removal.

I find that in a discussion which took place on Dr. Kinkead's paper, amongst other testimony to the possibility of frequent sexual intercourse occurring with unruptured hymen, Dr. Lombe Atthill said that he "was perfectly satisfied that not even a slight cracking of the hymen followed necessarily from intercourse. In certain cases the hymen yielded, like a piece of indiarubber, to gentle pressure, without cracking, and afterwards regained its previous condition, and was only cracked by parturition." At the same discussion a fact that I have myself noticed was adverted to, viz., that a pessary may be introduced into the vagina without rupture of the hymen, nor must it be forgotten that intercourse has taken place in certain cases *per urethram*, in which there has been no injury to the hymen. There is another matter that indirectly bears on this subject. In relation to the question of chastity the possibility of coition having frequently occurred without any further penetration than that carried inside the lips of the vulva is a matter of moment.

Two of Professor Kinkead's cases I will quote in full, as they bear specially upon the possibility of vulval intercourse continuing for a considerable time without any penetration.

Case I.—A prostitute, suffering from syphilis, with condylomata, also sores on, and discharge from, the vulva.

"Seduced at 17, she had passed some time as the mistress of her seducer, after which she lived for two years as a soldiers' prostitute. Returned to Galway, her time was occupied between prostitution and prison life. On examination, Dr. Kinkead found no enlargement of the nymphæ, no laceration of the fourchette, and there was a well-developed, unruptured hymen, the edges sharp and perfect without a single tear. The cause of the non-penetration seemed to him to be that the arch of the pubes was of the masculine type—angular—and the vulva placed more back than usual. In treating a sharp attack of gonorrhœal vaginitis, a small-sized Ferguson's speculum was passed, and the hymen tore without any extra force."

There is the possibility of such incomplete coition hap-

pening frequently in a case in which the hymen is of the yielding or folding kind.

"*Case II.*—Patient consulted me for amenorrhœa. The hymen was perfect, its edges sharp and untorn; in shape, position, and consistency it was normal, showing no evidence of pregnancy. The fundus uteri could be felt over the pubes. Finally, the patient confessed that she had had intercourse three and a-half months previously, just before the menstrual period was due."

Of the other two instances Professor Kinkead cites, in one, labour was delayed by the hymen, the edges of which were thin and white, the remainder "red." He lacerated the hymen without difficulty with his finger, and delivered with forceps. In the second the hymen was intact in a woman, aged 40, in her first labour, but it apparently was placed abnormally. There is a form of hymen which has been described by Skene, of New York, as the "hymen fimbriatus," fringed like the Fallopian tubes. Such irregularities might be mistaken for injury, and it is important to remember, as has been shown, that the carunculæ are formed only by child bearing, and not by simple laceration. It is, therefore, all-important to recollect that mere vulval intercourse is commonly occurring, and that such partial cohabitation leaves no proof behind that it has been indulged in. The law does not define in what "penetration" consists. The numerous cases which have been published, and instances of these which have occurred within the personal experience of most of us, of pregnancy happening with an almost imperforate hymen, are but examples of conception following these half-completed acts of coition.

I think I have said enough to elicit from this Society an expression of opinion on this matter, in addition to that given in the Academy of Medicine in Ireland, which may be of service in disputed cases arising in the future.

The wider and more explicit the knowledge that this folding condition of uninjured hymen may exist, though the woman has for a considerable time had sexual intercourse,

and the more exceptional or rare the class of case in which this may occur that is placed on record, the better. For it is just these out of the way occurrences arising suddenly without warning, that may put men off their guard in giving an opinion, upon which, for themselves and others, so much may depend.

The few cases I have formulated demonstrate the complicated association of circumstances which may group themselves round the solution of what many may consider so simple a proposition to establish the chastity of a woman. I apologise for the time I have occupied in bringing a subject in which there is nothing very novel before you, on the mere ground of its importance to the public and our profession.

The PRESIDENT was sure the Fellows would all wish to thank Dr. Macnaughton Jones for his interesting and valuable paper. The circumstances he had dwelt on were such as might occur in the practice of any one of them. He had himself seen cases of what was described in the paper as infolding hymen ; and he quite agreed with the view expressed that vulval intercourse prevailed largely among the public.

Dr. INGLIS PARSONS said that in his out-patient practice at the Chelsea Hospital for Women he had seen several cases of folding in of the hymen, and they had arrested his attention, because it occurred to him while thinking over the cases, that if there were a question of rape at issue it would be very difficult to come to a positive conclusion as to the true state of things. A further difficulty might sometimes arise from the absence of the hymen, when there had been no rape ; it was important to remember that this might be a congenital condition, and, further, that the hymen might be destroyed by masturbation.

Dr. HEYWOOD SMITH suggested that it would have been interesting to ask several of their legal friends to come to hear Dr. Macnaughton Jones' paper. The whole question turned on the multiform conditions of the hymen. And while it was often easy to say that a woman had an intact hymen, it was more difficult to say that she had not. He believed that mas-

turbation was more common among women than was generally supposed to be the case. It would be interesting to know what constituted "penetration" in the legal sense—whether merely between the external lips, or within the zone of the hymen. It was possible to slowly dilate the hymen without rupture, even when it was not of the type of the folding hymen; by causing a woman to strain, as was done in making a rectal examination, a moderate sized speculum could be thus introduced. But when the hymen was thin and hard, it was very difficult to dilate it without rupturing it.

Dr. A. E. BARRETT wished to call attention to a case to which he was called by a neighbouring practitioner a short time ago. In a case of labour the head was presenting, low down, there was only one aperture to be seen, which might have been either a dilated urethra, or unruptured hymen. The patient was taken to Queen Charlotte's Lying-in Hospital, and during the consultation there, the nurse came to say that labour had terminated spontaneously. It would be interesting to know if similar cases were known.

Dr. PURCELL remarked that the exact opposite of the cases mentioned by Dr. Macnaughton Jones, was sometimes met with, viz., where there was no hymen, and yet the patient presented a complete history of virginity.

Dr. LYCETT observed that most of the cases, where the question of the significance of the hymen arises, fell into the hands of the police-surgeon, not into those of the gynæcologist. He could recollect many instances in which, during a trial, opposite opinions were given by medical men called for the prosecution and for the defence, showing the great difficulty which may occur and the caution required in giving professional evidence in such cases. Many years ago rape was a capital offence; and it was terrible to think of the miscarriage of justice which must have occurred at times in the past. That a purulent vaginitis could arise in children, independent of the introduction of a specific poison or traumatism, was unrecognised in the early part of this century, and, so, many persons may have suffered, even capital

punishment, for a rape which they had not committed. Dr. Macnaughton Jones had done good service in bringing this subject before the Society.

Dr. ELDER (Nottingham) related an experience which occurred to him as Casualty Police Surgeon, when he began practice in Nottingham twenty years ago. He was called one night to see a woman who said that she had been raped. She presented some signs of violence to the vulva. The man was a foolish kind of fellow and employed no counsel; he was sentenced to a long term of imprisonment (either seven or fourteen years). A medical man in Nottingham who was interested in these matters, got to know that the woman was not chaste, and that just before she met this man she had come from a brothel, and was probably a consenting party. He wrote to the Home Secretary, and he and Dr. Elder examined the man, and found the penis very large. As a result of this enquiry and of the further examination of the woman, the man was discharged. It was a very serious matter to get up in a law-court and swear away a man's character and liberty. He should now be very loth to assert that absence of the hymen contradicted the condition of chastity.

Dr. RASCH said that in some cases, viz., where the vagina was large and the hymen non-resistant, one could not prove the woman's chastity, but when the hymen was small and resistant it might be possible to do so. In one case a girl of 15 was brought to him, whose father was accused of trading for gain in his daughter's immorality. He told her friends that he could not assert that the girl was a virgin; and his view proved to be right, as the accusation against the father was found to be correct. But in another case a girl came to him to ask for a certificate of her virginity: the hymen was small and so rigid that, taken with her history, he had no hesitation in giving the desired certificate. In most cases it was easy enough, while examining the vagina to avoid rupturing the hymen. All that was necessary was to let the patient strain while the well-lubricated finger was steadily pressed

against the introitus. No force should be used ; in a minute or two the finger would gently overcome the resistance. He agreed as to the necessity for great caution in giving a positive opinion.

Dr. MACNAUGHTON JONES, in reply, thanked the Fellows for the interest they had shown in his paper. He wished to repudiate any intention of implying that the presence of a folding hymen impugned a woman's chastity, but this was very different from convicting a man of perjury who affirmed that he had had intercourse in such a case. He thought it was always of use that such a Society should express and place on record its opinions on a subject which might at any time come up in a law court where the decision might gravely affect the liberty and even the life of a human being.

REPORT ON DR. HEYWOOD SMITH'S SPECIMENS, SHOWN
JULY 13, 1893.

(*v.* vol. ix., p. 257).

I.

These specimens consist of both ovaries and tubes, removed by Dr. Heywood Smith from a widow aged 51, for symptoms suggestive of intermittent hydrosalpinx.

The ovaries are contracted and atrophied as seen after the menopause. On bilateral section the ovary presents whitish isolated patches, varying in size from millet seed to that of a small pea. Microscopically these are atrophied follicles, the larger ones being made up of old corpora luteal remains. The ovarian stroma is normal, the vessels with atrophied walls.

Both tubes are dilatable with thin walls. Both abdominal ostia are completely sealed, the fimbriæ having disappeared, indicative of previous salpingitis and compatible with a history of intermittent hydrosalpinx. No adhesions are present and the uterine ends of the tubes are patent.

It is interesting to observe that the primary conservative effect of salpingitis is closure and sealing of the abdominal ostium with effacement of fimbriæ. Consequent on salpingitis, effusion of fluid takes place. If from any cause obstruction takes place at any two points of the tube a localised cyst results; if at both the abdominal and uterine ends the usual sausage-like translucent hydrosalpinx tumour results. This may either rupture with spontaneous cure, or the contents may periodically empty themselves by the uterine end, causing, as in this case, intermittent hydrosalpinx; or the collection

of clear fluid may become purulent, causing pyosalpinx or empyema of the tube, with possible rupture and fatal peritonitis.

J. A. SHAW-MACKENZIE, M.B. (Lond.), M.R.C.S.
T. W. EDEN, M.D., M.R.C.P.

II.

These specimens of ovaries and tubes are typical examples of advanced chronic inflammation.

The ovaries are enlarged, and rough from coarse adhesions on the surface. The general consistence is tough and leathery.

On section.—No follicular cups are seen, but the interior is hollowed out, the walls being thick and fleshy, while the internal surface is rough in some places, while in others it is lined by a thin film of wash-leather substance; *microscopic sections* show the stroma to consist of a dense tissue of spindle cells, while numerous inflammatory leucocytes are seen and tracts of fibrous tissue defined. The thin film of wash-leather substance is apparently devoid of epithelium, and consists of inflammatory tissue undergoing at places liquefaction, and to all interests, the pyogenic membrane of a tubo-ovarian abscess.

The tubes are greatly hypertrophied, the fimbriated ends lost and incorporated with the ovary, as is usually seen in advanced tubo-ovarian chronic inflammation.

J. A. SHAW-MACKENZIE.
HEYWOOD SMITH.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, APRIL 12, 1894.

DR. FENTON, VICE-PRESIDENT, IN THE CHAIR.

PRESENT: 25 Fellows and Visitors.

THE CONSERVATIVE TREATMENT OF DISEASE OF THE
UTERINE APPENDAGES. By C. H. F. ROUTH, M.D.,
M.R.C.P.

Part I.

I shall start my paper to-night by asking what to some may be an aphorism, and when addressed to gynæcologists, may savour of inaptitude. This may be so, but still I believe this question, at least in its totality, has not yet been answered satisfactorily. It is simply, what are the functions of the ovary and tubes? What purpose do they serve in the animal economy? The tubes, it will be said, convey the ova to the uterus. The ovary secretes the ova, but how does the free tube which floats in the cavity of the abdomen seize hold of the ovary to receive the secreted ovum? The most recent authorities cannot decide this point. Probably it is due to a current running from the peritoneal cavity to the uterus, set up by the action of the intra-tubal and uterine cilia. Possibly the erectile muscular tissue of the Fallopian tube, under the influence of the maturation of the ovum, is also a factor in the process, but again, has the ovary no other function? Does it secrete any other substance besides ova? *A priori* we should imagine it did, and further, following the example of the kidney which excretes bile in jaundice, it may, under certain circumstances, secrete some other substance, to compensate

for other defective glands. (The secretive and excretive functions of the spleen, thymus gland, thyroid gland, the supra-renal capsule and the pineal gland were then discussed.)

We now refer to more modern research and upon rather questionable ground, although the question is interesting. We are all, I suppose, well acquainted with the late researches of Brown-Séquard. Briefly it is to the effect that there is a certain principle which can be extracted from the testicle of animals, and which when sterilized and injected subcutaneously in a human being, is in many cases a recuperative remedy, specially in cases of mental decay.

Now I am not going to praise up this system, but I have read much that Brown-Séquard himself has written upon the subject, also Dr. L. H. Gorzet's book on "*La vie prolongée par la Méthode Brown-Séquard.*" I cannot consider, when many medical men from different parts of the continent admit its efficacy and instance cases, that it is all like the medical battery illusion, there must be a substratum of truth, for doubtless the secretion of an organ which effects such changes in life and nutrition, should have, we must suppose, *a priori*, a peculiar influence. It is true that among ourselves, probably owing to the ill savour of the subject, it has not been as fully tried as in other countries, but some have had the courage to do so. The subject was brought up before the Harveian Society by Messrs. Waterhouse and Shaw, and their opinion after trial was, upon the whole, favourable. More lately Dr. R. W. Felkin, in a paper (published in the *Edinburgh Medical Journal* for Feb., 1894), and entitled "Abstract of a Note on the Administration of Organic Extracts," speaks of the value of brain and orchitic extracts, prepared by Messrs. Duncan and Flockart & Co., in Edinburgh, and Burroughs, Wellcome & Co., in London. He gives two cases of paralysis, and one verging on delirium tremens cured by brain extract, also three cases of epilepsy greatly benefited, if not cured; and then refers to orchitic extracts and their effects. He alludes to certain habits of the savages in Central Africa to feed on raw orchitic glands and

their secretion to gain prowess; and like myself he believes that this gland and the ovary do secrete some peculiar fluid which absorbed in the system strengthens it in some manner and that the sufferings induced upon many women by castration, are due to the loss of this substance, although in time the effect may pass off. Melancholia and hyperchondriasis are the two resulting diseases he mentions. For my part I should say these effects only pass off when other glands supply the spermin, and compensate for the loss of the action of the two glands above named. Whether, therefore, we speak of the Brown-Sequard vaccine, or the inorganic salts, they do seem to do good in some manner such as suggested. I cannot say more, nor indeed can I say less. These agents are not always reliable, and frequently fail, but they also do sometimes bring about marvellous results. But contrariwise we must not ignore the converse experiments of opponents. It is alleged by several persons that if water be injected subcutaneously, it will produce the same results, that it is in fact, the result of a mental suggestion. Now I do not deny this, especially when attested by gentlemen connected with the Queen Square Epileptic Hospital, but the same thing has been observed in persons who have been accustomed to subcutaneous morphine injections where water has been substituted. Yet morphine is not inert.

Side by side with these results of success by the mere subcutaneous injection of water, we may mention those cases of fibro-myoma of the uterus which disappear. Mr. Lawson Tait refers to several cases—one where, after dilatation of the cervix, and under the influence of ergot and bromides it disappeared. Another in which he removed a cystoma by abdominal section, and a fibroid she had besides disappeared, and she became pregnant. Two others in which abdominal section was performed, but the tumours only handled, and yet both disappeared. More lately Mr. Alban Doran has called attention to cases which have disappeared spontaneously under various influences, and Mr. Greig Smith has given several examples of even malignant tumours, which, after the

opening of the abdomen, found to be irremovable, have yet suddenly been absorbed and disappeared. Then there is a remarkable case quoted by Dr. Petres, of Bordeaux, which may be described as mental impressions *versus* oöphorectomy (*Lancet*, ii., 1890, 681). He operated on a case of a woman suffering from violent neurotic manifestations, the result of fright by fire. M. Charlevin, of the Cremona Hospital, told her that nothing short of castration would cure her. Thereupon she became rampant to have this operation done, and so a mock operation was performed to calm her. She was anæsthetised, and a superficial cut made in the abdominal wall, which was afterwards dressed in the usual way with iodoform, &c. From that day all sickness, vomiting, and insomnia ceased, and she gained health and strength.

Now this reflection must be made on these cases. If they are true, and of this there is no doubt, would these successes justify us in opening an abdomen, handling the tumour and doing nothing more but closing the abdomen in all other cases, and this in the face of so many successful cases of ovariectomy and hysterectomy? I trow not. The same is true of these water subcutaneous injections as opposed to injecting a legitimate drug. It is not, however, a savoury idea, and I must confess to being actuated by a repulsive dislike to use these drugs, not because it is a vaccine, and because it is taken from a lower animal, a common objection urged by foolish anti-vaccinators, but because I have the same feeling when kidneys, or livers, or other internal organs are set on a table as luxuries for the purpose of a meal. In connexion with these injections, however, let me call your attention to some more recent discoveries.

In a paper published by Poehl, Berlin, *Klinik, Woch.*, No. 36, 1893), and referred to in the *British Association Journal*, epit. p. 63, Oct. 14, 1893, this principle, which is called "*spermin*" is stated to have been found in the thyroid and thymus glands, the spleen, ovaries and blood as well as in the testes, from which tissues it has been extracted as an insoluble spermin phosphate. These crystals are known as the Char-

cot-Leyden crystals. Poehl believes them to be a leucomaine, the product of a retrogressive metamorphosis of albumens. As such it is a constituent, probably the active one in Brown-Sequard's vaccine. Unfortunately it has not yet been produced stable in quality, nor has its use always been followed by the same results. Now, Poehl believes it to be a most powerful intra-organic restorative of the oxidising properties of the blood. His reasons are the power possessed by a small proportion of spermin to oxidise large quantities of metallic manganese, its restorative power in chloroform poisoning, and in these cases, where by section of the spinal cord a reduction of such intra-organic oxidation takes places. Poehl further quotes observations to show that the favourable action of spermin is more marked in patients suffering from anæmia, diabetes, scurvy, in which auto-intoxications are manifest as the result of an accumulation of retrograde products. Finally, he states that the effect of spermin injections is to increase the quantity of nitrogenous products excreted by the kidneys. Its action also in the cholera bacillus in like manner explains its tonic action. If it fails sometimes, as when it is found to be excreted in spermin phosphate crystals by the mucous membranes, it is probably due to *diminished* alkalinity of the blood, and this precipitation of the spermin phosphate has its influence on the system thereby suspended or lost. Hence the advantage of combining alkalis in its employment. Is this principle the same as the Brown-Sequard vaccine? M. Brown-Sequard believes it may be, but he is not certain, but he thinks his own vaccine more sure and effective. But what I have to do here is neither to recommend one nor the other, but to show that this principle must exercise a powerful influence on the animal economy, and its presence in the blood is not only a desideratum but a necessity. But now, *per contra*, have we any evidence that spermin taken from a woman has, when used in like manner and injected subcutaneously, a similar effect? On this subject, Dr. Gorzet makes the following observation: "My personal experiences," he says, "on the

juice extracted from the ovaries of animals demonstrate that this juice has *no* effect either on male or female. The female does not possess in her the power at the disposal of the male ; no part of a female being contains a fluid similar to the testicular juice. It belongs exclusively to the male, although it is secreted under female influence," p. 91. It is difficult to reconcile this opinion with the following. An American lady, M.D., of the Faculty of Paris, Mrs. M. Augusta Brown, undertook with great courage the study of subcutaneous injection of ovarian juice taken from animals. She performed her experiments upon a large number of women. Her results were extremely interesting. She selected the ovaries of rabbits, removed from the abdomen of living animals, following the same rules given for the testicles, sometimes using the Pasteur filter by paper. The injections were made subcutaneously on thorax or abdomen, both instruments and vessels being antiseptically prepared. She treated in this manner more than a dozen women affected with extreme debility, caused by age, insomnia, hysteria, uterine affections, &c. In all she found great gain of strength, in others restoration of sleep, stoppage of the hysterical attacks and cardiac palpitations, and an amelioration both of digestion and nutrition. In one remarkable case of an old woman who had possessed a splendid voice, but had lost it, the ovarian juice subcutaneously injected caused it to return with all power. Mrs. Brown found, however, that six or seven injections were often required. Mrs. Brown tried to have it absorbed over a portion of skin previously blistered, but the results obtained were much less favourable. The conclusion arrived at was that the effect of injection of ovarian juice subcutaneously was identical with injection of testicular juice but less powerful.

Such a conclusion is in keeping with the presence of spermin in the female ovary. I do not mention the above recited facts with a view of recommending the practice ; that is no part of my subject, but it would have been a manifest contradiction to Poehl's views and the discovery of spermin

in the female organs, if some such effect had not been produced. The important conclusion I draw is that spermin does exist in the female ovary, as well as other glands and has a powerful recuperatory influence on her being. I am glad also to find that Mr. Martin, in his very able paper on the "Nerve Theory of Menstruation," published in the last quarterly number of our Transactions, in the second conclusion drawn as to the cause of the symptoms produced during change of life, says: "It is probable that the ovaries, like the liver and thyroid gland, modify the blood circulating through them and add to the blood some peculiar product of their metabolism. It may be that some of the climacteric symptoms are due to the loss of this substance from the system." I should venture perhaps to refer to this corollary in rather a more absolute sense, and say it would be very singular if the ovary did not, like other glands, secrete or excrete something useful for the processes of the economy, and which, if it failed to do, would not only entail pain and disorder in the system, but produce abnormal phenomena culminating occasionally in insanity.

We know that some very analogous, albeit different, results are observed in castrated men. It is well to refer to this for comparison.

(*Medical Times and Gazette*, Jan. 26, 1861, "Eunuchs.") Castrated persons have many defects which are peculiar to them; they have a bad odor, a yellow colour, furrowed cheeks and feminine voice; they are unsociably deceitful, and rescals, and are never known to practise any virtue. (Cours d'opérations par Dionis.)

Eunuchs are the vilest creatures of the human race, cowards and deceitful because they are weak; envious and spiteful because they are unfortunate. (Benoit Mojors.)

J. E. Beauvoism says black eunuchs are brutal animals without any instruction, and live like wild boars in their lairs. These ferocious animals seem to think they may do what they please, and are ready to sabre those who do not get out of their way. White eunuchs are less savage.

In appearance they come to lose the shape of men, seem to resemble females in the development of several bones, also become gross and fat. Their muscular force and courage like that of animals, is diminished. What a difference in these respects between an ox and a bull, a ram and a wether, a cock and a capon. According to Arnabe (lib. 5) they are generally weak and invalids, and subject to hæmorrhoidal discharges, which assume a periodic character, as if to make up for the inutility of the blood towards the development of testicles and beard. . . . Castrated individuals are more sensitive, more obnoxious to diseases of nerves and low spirits, and affected so as often to faint on the slightest excitement.

It is but right to add that history recalls a few exceptional cases. One was a general of Constantine the Great, and another a celebrated Minister of State, but they were immensely wealthy, and whether they were complete eunuchs, or operated upon in later life is not stated. It is also said that they do not suffer from gout and rarely from eruptive and inflammatory diseases. Lepretre indeed recommends castration in cases of elephantiasis, and the priests of Cybele were in the habit of curing mania by castration, while in certain Swedish villages it is practised in cases of satyriasis and spermatorrhœa as a curative measure.

As a reverse in the physiology of a perfect man, the following opinion is given which is for the man although in other words it is the same conclusion to which we have referred as appertaining to the physiology of woman, viz., a "Memoir on the effects of Castration on the Human Body" by Dr. Bojon, Professor of Anatomy and Physiology at the Imperial Academy of Genes, 1813. Stress is especially laid upon the fact that it is by the reabsorption of the sperm that is due the last degree of perfection in our formation, but we must bear in mind that these spermatic atoms of the blood, before they can be regarded as such, must be elaborated and secreted by the testicles themselves, carried into the spermatic vesicles, absorbed in the lymphatic vessels, which,

transmitting them in the sanguine system gives the last stroke to perfection to the animal machine (p. 12).

Part II.

What is the condition, mental and physical, which obtains in a castrated woman? I care not if it be said that the mortality is small. But what are the symptoms in after life? Dr. Geo. H. Savage, in a paper on *Some Neuroses of the Climacteric and Summary of Climacteric Cases at Bethlem*," makes a remarkable admission that in the library of the Royal College of Surgeons he did not find a single entry under either of the heads, Climacteric, Change of Life, or Menopause. Two books only were found: one in English, on "Change of Life," by Dr. Tilt, which he characterises as excellent, only a little too full of vasomotor explanation; one in French, by Dr. Gardann. In fact, the full phenomena of change of life in modern data has yet to be written, but is it not equally the case with the results of castration in the female? Operators are glad enough to tell you how many cases they have operated upon, and that their patients recovered from these operations, but what became of these women later on?—that is the question to be answered. But on this point they are almost entirely dumb.

First, as regards the ovary itself. If any healthy part of it is left behind, it will do its work. Several examples are given of pregnancy following partial castration, to which I shall make reference in the sequel. But more lately Dr. Airstoff (*Lancet; Medical and Surgical Reporter*) has published a dissertation on the compensatory hypertrophy of the ovary, from materials obtained from the pathological Medico-Chirurgical Academy under Professor Wanoski, from which he shows that when one ovary is removed the other one increases in size and weight, the follicles coming more rapidly to maturity and withering more quickly, besides which the medullary layer increases. In observations made on rabbits, it was found that the hypertrophic process ("Physical and

Mental Changes after Castration of Annexes and Ovaries") had begun within two months after the operation, and that at three or four months the remaining ovary had nearly doubled its original size. After the fifth month the remaining ovary became smaller again (JOURNAL OF THE BRITISH GYNÆCOLOGICAL SOCIETY, Nov., 1893, p. 342). This is, after all, what we should have expected, and should act as a caution to surgeons not to remove a second ovary, even though healthy, lest it should become diseased. This has already unfortunately been recommended as the safest course to pursue, but such is not improbably a surgical delusion.

Climacteric changes closely resemble those following castration.—Dr. Savage, speaking (*Medical Press*, Nov. 8, 1893) before the Medical Society, has put in a very interesting form before us some of the psychical troubles of the menopause—those who fancy something has burst in their heads or wombs, who describe the feeling as one of hot blood over the brain surface, or partial loss of brain, or deadness or emptiness, all of which he has no doubt are due to disorder of the reproductive organs, either at the onset or ending. He dwells particularly on the development of hair on their faces, so much more commonly produced at the menopause, and which may develop an accompanying suicidal tendency; this hirsuteness may also occur after removal of the ovaries. Again, with the passing away of the sexual function, querulousness, jealousy, imagination that they are no longer cared for by their husbands, not infrequently occur.

Fully developed insanity occurs generally in the form of melancholia. Out of 54 Bethlem cases, 32 were melancholic, 10 maniacal, 7 suffered from delusional insanity, 3 from mental weakness, and 2 were general paralytics. Dr. Savage dwells also upon the disorders of the senses, and especially those of hearing and smelling, and the hankering after strong drink. The perverseness of the sexual function or sympathetic side of the woman at such times is apparent in home relations; some lose all sexual feeling, and imagine they are shunned for this reason by their husbands. But in some

there is a distinct revival of the sexual function, and this is combined with cunning, deceit, untruthfulness, and dishonesty; attentions are misinterpreted, and they may pass away from a virtuous course of life. In others this passion passes all bounds, and nymphomania results.

But Dr. Savage concludes with this definite opinion. "The ordinary symptoms of the climacteric may be induced prematurely by oöphorectomy, and I have some experience that the morbid exaggerating may also occur under similar conditions. Indeed, all those who have discussed this question repeat this general statement. Among the later writers, Martin, in his paper read before the Gynæcological Society, affirms that the artificial menopause is accompanied by the same peculiar nervous disturbances which characterise the natural climacteric (p. 279, Nov., 1893). The same is asserted by Dr. Champneys in his last paper in the Bartholomew's Reports on removal of appendages. "The menopause," he says, "with all its accompaniments occurs" (p. 55). Amongst other symptoms he refers to the occurrence of vasomotor disturbances, flushings, abdominal swellings, faintness, neuroses, &c., sometimes great obesity. The sexual organs shrink, vagina and uterus atrophy, breasts shrivel, and of course sterility." There is no doubt that many of them on realising their degradation are, like eunuchs, made intensely miserable, a feeling which extends often to the husband, who thereby thinks himself dishonoured. Dr. Champneys lays great stress on the loss of the feelings of motherhood. This men cannot appreciate, but to woman it is often an agonising life-long misery, if not shame. Last, not least, though surgeons have become very skilful in castrating women, still the mortality is not to be set aside too readily. Dr. Champneys expresses this strongly: "There can be no doubt that free removal of the appendages has killed many women unnecessarily."

It is well to say a word on the unsexing of the castrated female. Some are said to lose all sexual orgasm, others to have it intensified.

Climacteric changes resembling those of Castration.—Upon

this point also Mr. Knowsley Thornton states (*Medical Society of London's Transactions*, vol. xiv., p. 255) with regard to unsexing, again affirming, as he had often done before, that removal of both ovaries in a woman who had no supernumerary ovary, did unsex her and destroyed the sexual desire and pleasure. He affirmed this as the result of careful inquiry addressed some years ago to all the patients on whom he had performed the double operation either in ordinary ovariectomy, or in the operations under consideration.

I think it will be admitted that operations on the sexual organs of a female favour insanity in some form. In hysterectomy Dr. T. Keith put it down as 10 per cent., and I suppose in these cases the ovaries and tubes were also removed. Even we find (*Lancet* i., 1885, pp. 522) insanity often occurs after ovariectomy (Barwell's paper). Barwell, Lawson Tait, Alban Doran have all given instances. Meredith also states that many cases of insanity had occurred after ovariectomy, usually within a week after operation. Dr. Edis mentioned one also.

This subject has been lately discussed by Dr. A. H. McFarland in a paper which was published in the *Annals of Gynæcology and Pædiatry* for October, 1893. After mentioning Dr. Spitzka's and Dr. Richard Dewey's opinions, who leave the question very much where they found it, still unsettled, Dr. McFarland remarks: "While pelvic and abdominal diseases of women are more frequently and intelligently recognised by the profession now than formerly, it may be affirmed that more women, ten to one, have been consigned to hospitals for the insane (victims of needless or unskilful surgical operations) than have been restored to reason by the most commendable and skilful abdominal surgery. (*British Medical Journal*, November, 1893.) Dr. J. M. Baldy read a paper before the American Gynæcological Society, on "Insanity following Laparotomy," in which he gave statistics from Insane Asylums of Pennsylvania in regard to the number of patients received after laparotomy. From 18 institutions he received reports of 15 cases, and he

himself had one case of melancholia after an operation for rectocele, and another with chronic confusional insanity after oöphorectomy. One of the conclusions of this paper *in primis* is that gynæcological operations are more likely than any other surgical procedure to disturb the mind.

Effects of removing annexes.—In the *Medical Press* of November 22, 1893, reference is made to Professor Chrobak's views on the advantages and disadvantages of operating on uterine appendages. He points out the great difficulties in drawing honest conclusions therefrom, as the statistics are not sufficiently reliable. Rosthorn operated on 106 cases who visited the Hospital of Vienna and endeavoured to learn by a schedule of appropriate questions on their present state of health. Only 40 replied. The difficult question is "Are they able to perform their usual duties afterwards?" It certainly involves sterility in most cases. But the danger of the operation is small. Professor Winter makes it $3\frac{1}{2}$ per cent. Schauta and Chrobak 4·1 per cent., but sometimes a psychical change takes place which must never be lost sight of in our premonitions.

The result of the Fragebogen was: (1) State of general health—8 good, 24 improved, 3 unchanged. (2) Ability for work—26 able, 16 improved, 6 unable. (3) Assimilation—29 improved, 1 the same, 13 emaciated.

From 40 published cases by Rosthorn, 3 are reported to have died shortly after the operation, 20 recovered, 20 healed, 4 unhealed, 13 improved, 1 remained without history. A later history of 30 cases gave 19 who perfectly healed, 4 improved, 4 remained unhealed and 3 died. From this it is concluded that half the cases have a satisfactory result. On the other hand, Schauta receives these statements with great incredulity as the unrecorded cases would outweigh this result. Again statistics showed very few cases died from pyosalpinx. Many recovered by massage, but if rupture occurred the perforation and peritonitis were so rapid they died before reaching the hospital. In many of the cases he had operated upon severe central disturbance ensued which

led him to believe there was a much closer connection between the nerve centres and the genitals than we had calculated upon. He had operated on 213, 121 had been heard of, 100 had replied favourably, 17 were freed from their former symptoms, while 4 remained unchanged. Careful consideration of the whole case was therefore still a great desideratum.

Part III.

MORTALITY FROM DISEASES OF THE ADNEXA. COMPARING CASES LEFT TO THEMSELVES WITH CASES OPERATED UPON.

Here we must distinguish between the usual mortality from these diseases without operation, and after operation. The latter class to be again subdivided into those cases treated *per vaginam*, and secondly into those treated by abdominal section.

Dr. Grigg has given us a very graphic account of seven cases of ruptured pyosalpinx which occurred at Queen Charlotte Hospital during or after labour. This is a very sad complication, the more so as I do not see how the existence of this disease, entirely unsuspected, could have been diagnosed in time. It would be needful to examine every pregnant woman, which could never be, before labour. But we may trust that after that paper it would be at once diagnosed like a case of ruptured ectopic gestation, and operated upon once it had burst. But if only seven cases were observed out of the thousands of women confined in that hospital, the disease must be exceedingly rare.

Dr. Lewers (in an able paper on the "Pathological Conditions of the Fallopian Tube," *Medical Society Transactions* for 1887) found 17 cases of gross tubal disease out of 100 women carefully examined in the dead house, but in no case was death produced by the disease.

Dr. Galabin, out of 302 *post-mortems* at Guy's, found the number to be only 12 or 4 per cent., and the number of cases

of pyosalpinx, was still smaller, 2 cases. There were 14 cases of chronic inflammatory disease, or 9 per cent., about the Fallopian tubes without distension. Death had probably indirectly resulted from perimetritic inflammation in about 2.3 per cent.

Dr. Kingston Fowler's *post-mortem* cases are still more remarkable. In three years, 1882, 1883 and 1884, the full data of which, through the courtesy of Dr. Kingston Fowler himself, I am enabled now to give the total number of *post-mortems* made at Middlesex was as follows :—

Year.	Medical.	Surgical.	Total.
1882	178	110	288
1883	182	112	294
1884	167	92	259
	<hr/> 527	<hr/> 314	<hr/> 841

Out of this 841 total, there were found 15 cases of pyosalpinx and hydrosalpinx, "but in none of these cases was the disease suspected during life. Partly also from the fact that all the cases were complicated by some other general or uterine disease, which would render doubtful to what degree any symptoms observed were due to the state of the Fallopian tubes, and also because in most of the cases, the reports of the *post-mortem* appearances clearly indicate the course of the disease and the sequence of the several events which together brought about the patient's death."

These cases so fully and faithfully given, and evidently with so much impartiality, have been often quoted as proving the great seriousness of the disease and its great mortality, but I think with the above lucid description given in a few words, and so very forcibly put by Dr. Fowler, such a conclusion is scarcely warranted, or intended by the author, especially now as we know the total number of *post-mortems* made in the three years. Thus far they can now be compared with Drs. Lewers' and Galabin's cases. In the first place Dr. Fowler distinctly states that in none of those 15 cases was the disease suspected during life. Have we not some reason,

therefore, in hoping from experience in other cases, that if they had been diagnosed, perhaps some might have been cured, and lastly, one objection which I think has great weight, has been made by Dr. Champneys: "In Middlesex Hospital the autopsies include a number of cancer cases from the cancer wards. In 5 of the fatal cases cancer existed, and in 1 there was a large fibroid. All that these cases therefore prove, is that cancerous women may actually die with intercurrent tubal disease. As it is, it proves that out of 841 cases 15 only died with diseased tubes in the three years, *i.e.*, giving a mortality only of 1 per cent."

This result is contrary to what has been stated. Dr. Lewers tells us that in none of his 100 cases was death produced by the disease. Out of 302 cases Dr. Galabin gives the percentage mortality as 4 per cent. and Dr. Kingston Fowler as 17 per cent.

It would seem, however, from these preceding data that if the cases had been left to themselves the mortality would have been less, as a general rule than was those operated on. For the actual mortality after operation is more formidable, except with Mr. Lawson Tait who puts down his deaths, out of 474 cases, at 2.5 per cent.

Dr. Cullingworth in his paper read before the Obstetrical Society, puts it down at 18 per cent. on 50 cases.

Dr. W. Duncan, 30 cases and 1 death, *i.e.*, 3.3 per cent.

Dr. Byford, 24 cases, 2 deaths or 8.3 per cent., and at the Samaritan Free Hospital from 1880 to 1893, 66 cases, mortality 5, equal to 8.3 per cent.

Dr. Cushing in the *Pacific Journal* for July, 1890, gives us also a summary of 14 cases in which abdominal section for removal of uterine appendages, not the seat of tumour, was performed by various gynæcologists with only 1 death = 7.1 per cent. These numbers differ greatly, but it is manifest that a great deal depends on the nature of the cases operated upon. For instance, in Mr. Tait's cases there were 179 cases of pyosalpinx = 37.7 per cent. In Dr. Cullingworth's 20 cases = 40 per cent. In Dr. Duncan's 2 = 6.6 per

cent. Dr. Cushing, 7 cases or 50 per cent. Comparison therefore gives no idea of the merits of the operation.

Professor Winter has a mortality of $3\frac{1}{2}$ per cent. Schauta and Chrobak 4·1 per cent., and Martin out of 27 cases lost 1 = 3·7 per cent. Dentu extirpated the annexes in 48 cases. But this number included 4 ectopic gestation cases. Before 1890 at the Hospital Necker 18 cases with one death only. Since 1890 he had extirpated the annexes in 30 cases, 14 of these were chronic salpingitis, cysts, hydrosalpinx, &c., all cured, 12 were cases of pyosalpinx with 2 deaths, 4 were cases of ectopic gestation with 1 death.

Omitting these last 4 we have 44 cases of removal of the annexes with 2 deaths, 4·5 per cent.

Again, Bouilly had 33 laparotomies for pyosalpinx and 4 deaths, 12 per cent.

Second had 23 hysterectomies for removal of appendices with other lesions of tubes and ovaries with 4 deaths, 17·4 per cent.

Doleris had 84 laparotomies with 4 deaths, 4·7 per cent.

Richelot 103 laparotomies for diseases of annexes with 4 deaths, 3·8 per cent.

And yet if we are to believe the French surgeons, they appear to think that it is almost innocuous to remove the appendages, although some openly condemn the operation as frequently nothing better than mutilation. "The mortality from operations in these cases," says Doleris (see his paper "*Trop de mutilations inutiles*," *Nouvelles archives d'obstétrique et Gynécologie*, vol. vii., p. 403) is another surprise. It seems to have become a negligible quantity. Some writers simply speak of it—others pronounce it very precisely, but only for recent and limited periods, omitting all earlier dates. Again, others regard the mortality from these operations as not possible.

Part IV.

MODES OF OPERATION ON THE ANNEXES.

In a remarkable paper published by Dr. Doleris, in the *Nouvelles Archives d'Obstétrique et de Gynécologie* (vol. viii., p. 401), on the abuses of castration, a paper in sequence of a former one on useless mutilations, &c., he refers to the extraordinary number of cases in which such castration, *i.e.*, the removal of the annexes of the uterus in France, and gives the following table. Here is a total of 511 performed by 7 operators by laparotomy:—

Richelot	...	...	...	...	...	170
Terillon	...	...	...	...	...	140
Bouilly...	...	...	...	...	...	70
Doyen (de Reims)	...	...	...	...	...	58
Dentu ...	...	..	...	...	...	34
Routier	...	...	...	...	...	22
Second	...	...	...	...	...	17

511

Richelot's cases occurred in 2½ years. Doyen's in a town of 100,000 inhabitants. This number of operators does not include seven other operators of distinction. These operations, he adds, are practised in forty-five institutions where surgeons carry on the service, so that M. Doleris believes that the number should at least be reckoned as ten times more frequently done than above statistically stated, *i.e.*, over 5,000. And yet Dr. Doleris asserts it as his conviction that $\frac{1}{10}$ of these poor women could have avoided this radical operation. Dr. Doleris states further that out of about 300 cases observed in three years, he found about 50 in whom castration might have been reasonably practised, but that every day he found that he could cure them as effectually by other measures. It is unfortunate for those who remove the annexes that the mortality is really a negligible quantity, because these operations, Doleris tells us, are practised in France for ovarian folliculitis, catarrhal

salpingitis, pelvic neuralgias, and true hysteria. But we learn that the removal of the annexes is often performed in these realms, when the organs removed are perfectly healthy. Mr. Lawson Tait gives us his authority for this statement. In the *Lancet* (for Feb. 7, 1891, p. 293), Mr. Tait, in a lecture given before learned doctors, described a visit he had paid to one of his ardent disciples who triumphantly brought out two dozen appendages in bottles, which, in almost every instance, were free from guile.

In America, in the discussion upon Dr. Polk's paper (see *Transactions of New York Journal of Gynecology and Obstetrics*, p. 728, for August, 1893), Dr. Williams, of Baltimore, says: "For the last three or four years I have received a large number of tubes and ovaries in Baltimore, in fact, I have received all that were removed by five different operators for examination, so that I am able to say what few other men can, that a very considerable number of the operations are done absolutely with no justification. As the result of my work covering at least 300 tubes and ovaries, that in at least 5 per cent. of the cases there was absolutely no anatomical ground for removing them. . . . I have seen a considerable number of young women who have had their ovaries removed for dysmenorrhœa, and in the vast majority of these cases there was no reason for it."

Dr. Wathers, speaking of Dr. Polk's paper, said he thought it would have a good effect upon those members of the profession who are so fond of removing the ovaries, whether they are diseased or not. He had seen ovaries and tubes removed in which you could not see one particle of disease, tubes a little smaller than normal. (*Ibid.*, p. 729.)

MEASURES TO BE TAKEN WITH DISEASED ANNEXOR.

We come now to the practical part of this paper. What are we to do with diseased annexes?

I. The complete or partial extirpation of the annexes.

(1) Complete extirpation the easiest and simplest corresponding to the spaying of animals. (2) Partial extirpa-

tion, viz. : (a) Doctor Polk, partial resection of tubes, and of ovaries, and cutting or tearing adhesions, and replacing portions so treated within the abdomen. (b) Dr. Barrow's partial amputation of tubes, and returning the healthy part in the abdomen. (c) Professor Pozzi, partial resection of diseased parts of ovary, the cut edges being brought together, if healthy and stitched, or ignipuncture of ovary, if cystic, fixing ostium of tube to ovary. (d) Dr. Martin, also resection of the ovary in like manner, but without ignipuncture and resection of diseased part of tube and formation of a new ostium. (e) Salpingotomy as taught by Dr. Skutch, *i.e.*, a small piece of tube removed and the parts brought together in cases of hydrosalpinx.

In all these modes of operation abdominal section must be performed.

II. Cases in which the treatment is carried through the vagina or rectum. (1) Dilatation and curettage of uterus. (2) The special treatment of gonorrhœal cases by electricity. (3) The relief of abscesses by the use of the aspirator.

I. Complete extirpation has been largely recommended and on both sides, even when only one annex is diseased. The reason alleged for doing so is, that if one annex is diseased, the other soon will be. The objection to this method is that, although the easiest plan, it is *not* invariably necessary, for the remaining ovary may not become diseased, but enlarge and by its increased size compensate for the loss of the other, and so many such women have become mothers. We do not remove both ovaries in cases of ovariectomy and many of those so operated on have subsequently become mothers. I do not say complete extirpation may not be sometimes necessary, but even on this question gynæcologists would differ. Some, as Segond, would say do it, but with hysterectomy, and deprive a woman of her womb which if retained is often a source of discomfort, forgetting the greater mortality. But this question does not really concern us at present.

II. *Partial Extirpation.*—To Dr. Polk, I think, of New

York, we must give the honour of having put this mode of operation boldly before the profession, and very unanimous should be the praise tendered to him for having defined a more merciful and a wiser mode of action. It is true he opens the abdomen, and looks in, but he respects the motherhood and the feminality of the poor sufferers on whom he operates, and mutilates as little as possible. He takes up the axiom of another great gynæcologist, whom he also quotes emphatically, p. 653. "I take it for granted," says Schroeder, "that the essential matter in this question of the ovary, is the maintenance of menstruation and ovulation, because of its effect upon the physical and mental well-being of the patient."

(1) *As regards tubes.*—Polk recommends retention of the tubes in thickening after acute inflammation, unless the uterus be the cause. If so, the uterus must be at once cleansed, curetted and packed with gauze, p. 651. Delay extirpation of tubes. If the tube be not distended and is closed by recent lymph, he opens it, approximates the outer and inner coats, washes it out with plain water, and returns it to the pelvis, p. 652, but he removes all tubes distended with muco-pus, blood or sero fluid, even to the very *cornua uteri*.

(2) *As regards ovaries.*—These generally should be removed if the ovaries are sufficiently diseased. As a rule he removes both ovary and tube. But should the ovary also be removed with the tube, if the tube only is diseased? Polk replies in the negative. Remove the tube, but leave the ovary, even if the case be one of pyo, hæmato, or hydro-salpinx; and quotes 10 cases so operated on, and with good results, one becoming pregnant subsequently.

(3) *As regards adhesions.*—If these imprison the ovaries and tubes, they will destroy their functions. If the adhesions can therefore be cut, or torn away safely, this should be done, and the organs will regain their integrity in many cases.

Dr. Polk's modus operandi as regards the uterus.—In every case the uterus should be dilated, curetted with a sharp curette and then packed up with as much gauze as it can possibly be made to hold. This clears the field.

As regards the operations.—While the ovary is merely the seat of small cysts, *ignipuncture* with a fine cautery point is the best procedure, or with larger cysts enucleation and subsequent cutting away portions by a V-shaped incision. In the removal of a tube, or a portion of it, act as you would in a case of removal of a portion of intestine, &c.

At the date of this paper Dr. Polk had operated in some one or other of these conservative ways in 80 cases, and these cases were for the most part again seen after periods of six months or two years, and he states that in all, except seven, excellent therapeutic results were obtained (p. 654).

AMPUTATION ON PART OF TUBE. DR. BARROWS' MODE OF OPERATION.

In a paper by Dr. Charles Clifford Barrows of New York on the conservative surgery of the uterine appendages (*American Journal of Obstetrics* for December, 1893), after a short review of the more radical treatment by extirpation of the tubes, he refers to the paper by Dr. Polk, who treated diseased and adherent tubes and ovaries, and cured them by more benevolent measures (*New York Journal of Obstetrics, &c.*, August, 1893). It was clear that under the name "cellulitis," catarrhal salpingitis was cured every day by routine means, and that by simple breaking up of the adhesions and washing out a tube in catarrhal salpingitis, when even swelled to the size of a finger. In eight cases at different times where the inflamed and adherent appendages were freed from their adhesions, the fimbriated extremity of the tube opened. The tubes were washed out, and with the ovaries returned to the abdominal cavity and the patients were cured. Although most of his hearers maintained their preference to non-interference or complete extirpation, Dr. Barrows insists upon a more conservative treatment, and one founded on the *fons et origo* of its pathology.

All persons, he says, admit that salpingitis and ovaritis as a rule, originate from the extension of some inflammatory

condition of the uterus, or its lining membrane. Dr. Polk concludes from this fact, that irrespective of what you may do with the appendages themselves, the original source of infection must be removed, and to do this he advises curetting and firm packing of the cavity with gauze. This cures at once not a few cases of salpingitis. (*Ibid.* for February, 1892.)

Dr. Barrows adopts the same plan, either before or at the time of coeliotomy, as it is quite possible and more convenient to perform these two operations synchronously. Indeed, he states that he has on more than one occasion curetted, packed the uterus, repaired lacerations of the cervix and perineum, and resected the tubes and ovaries at the same sitting, all within one hour, thus avoiding a second etherisation.

By resection or amputation of the tubes Dr. Barrows means the cutting off of the diseased abdominal end of the tube, not the removal of a portion of the wall of the tube, the apparent healthy portion being returned to the pelvic cavity. In certain cases of pyo-salpingitis, the tube may be amputated at some distance from the cornu of the uterus, and the formation of an artificial ostium abdominali may be so completed. In some instances he has noticed the tube which contains the pus is closed, firstly, at the extreme end of the infundibulum by adhesions with surrounding parts, ovaries, intestines, &c., but secondly it is also closed at a point about half an inch to an inch or more in length from the uterine cornu. It is in this sac that the pus accumulates. In the inner portion of the tube, the aperture is patent, and any pus there formed is discharged by the uterus, but far more frequently neither the mucous, serous, or muscular coats of this portion are inflamed. It is in these cases where we have a healthy ovary, and the fimbriated extremity of the tube is not adherent to it, that he amputates the healthy portion of the tube, washes it and slits it up a little way, and unites the serous and mucous coats of it by fine catgut ligatures, bringing the new ostium thus formed in close apposition to the ovary. The uterus may thus be curetted and filled with the gauze; all painful symptoms disappear even during menstruation.

Of the completeness of the cure Dr. Barrows had an opportunity of convincing himself in a patient who came to him for hernia, and on whom he had operated a year previously, removing a purulent tube and ovary from right side, breaking up the adhesions on left side, resecting the tube and about one-third of ovary, and on examination he found the latter in apparently a perfectly healthy condition.

Dr. Barrows concludes his very interesting paper by a tabulated account of 18 cases so treated, besides a nineteenth not included in the table, 6 were cases of pyosalpinx, in which the tube was amputated and a new ostium made.

PROFESSOR POZZI'S CONSERVATIVE TREATMENT.

Professor Pozzi insists, as one of his preliminary points, that salpingitis being an extension of disease from the uterus, the uterus must be treated, and this by curetting, cauterisation, and electricity, but this he believes will fail the moment that pus begins to form and when, in chronic cases, the tubal walls have thickened and the fimbriæ united. He speaks doubtingly however, as to massage, lest it should induce rupture, and electricity is equally hazardous, except in neuralgic cases. He also opposes dilatation of the uterus and internal ostium of the tube, because it provokes neighbouring inflammation, and it does not open the os so as to allow free exit from the tube. Pointing next to the magnificent results obtained by resections of bones and joints in surgery, he concludes that there is abundant evidence that this may be done for the tubes. But he limits his operation. Cases which after laparotomy display profoundly disorganised appendages, a pyosalpinx with abscess of ovary, or complete cystic transformation of ovary and parenchymatous alterations of the tube, must be removed in totality. But in hydrosalpinx with relative integrity of the ovary, cysts only the size of a pea, or an intact and permeable tube with diffuse ovaritis sclerosis, or limited longer cysts, or microcystic degeneration, conservatism may be adopted. In the first case partial resection of the ovary may

be done. In the second we may perform salpingostomy, *i.e.*, re-establishing an ostium by partial resection of the Fallopian tube.

The general rule Pozzi gives is that wherever the Fallopian tube is healthy and the ovary alone diseased we must endeavour to preserve a part of the latter and only at the last extremity resign ourselves to a total extirpation.

The plan originally adopted by Pozzi was first having ascertained that the tube was perfectly permeable by a stylet passed down to the uterine cavity, the ovary was seized and a piece of it removed by a cuneiform section. The parts were thus brought together by catgut sutures. If the ovary is affected with microcystic degeneration, and any portion of it, and frequently the hilum is intact, is not so affected, it is spared and the diseased portion alone removed, then the ostium of the Fallopian tube is fixed upon the ovarian stump by a few points of suture, salpingo-graphy, and thus placed in position to receive the ova. More lately Pozzi has still further modified his *modus operandi*, by opening all these small cysts by the knife, or actual cautery, which in itself often causes an energetic melting away of the chronic inflammations.

His results in his own words may be here added. He has practised complementary hysteropexy upon only one of his six patients. Upon four he practised salpingorrhaphy or suture of the Fallopian tube to the uterine stump, which he has also done in some broken adhesion cases. In five out of the six cases he removed the appendages on the opposite side.

To summarise—fourteen women on whom he practised conservative operations on the ovary, recovered, were cured or immensely improved. In each case menstruation recurred and one became pregnant.

MARTIN'S CONSERVATIVE OPERATIONS ON OVARIES, &c.

A. Martin (*Deut. Med. Woch.*, July, 27, 1893; *Epitome British Association Journal*, Sept. 9, 1893), has also adopted conservative measures.

(1) Resection of the ovary. Usually, bi-laterally diseased, yet sometimes only circumscribed cystic disease may be found in the other ovary. Under these circumstances, should the entire ovary be removed? His answer is in the affirmative. if there be no healthy tissue left, and if the process be suppurative; but not in some other cases. He refers to 27 such cases with 1 death. Two of these relapsed, but of the 24 remaining 3 bore children. Ignipuncture has been used by Dr. Pozzi, but Martin is satisfied with incision and stitching up.

(2) Again, resection of a stenosed tube, the other being removed for disease. Here it may be more difficult to recognise the character of the disease. The contents of the tube must be carefully examined; if they are turbid or unmistakably purulent, or if the mucous membrane be ulcerated, the tube must be removed, otherwise resection with the formation of a new ostium may be practised. If any doubt exists the whole appendix should be removed. Of 40 cases with 2 deaths only 4 were not cured or considerably improved, only 1 became pregnant, but 12 were unmarried, and the husbands of some others were asthenical or had had gonorrhœa.

Thus we have a mortality for the first class of cases 3·7 per cent., and in the second class of 5 per cent.

PART V.

MODES OF OPERATION ON THE ADNEXA.

II. Cases in which the treatment is carried on through the vagina or rectum.

(1) It is well to note first what is now admitted on all sides, but which is of immense importance, that disease of the annexes is merely an extension of disease by contiguity of surface from the vagina and uterus.

(2) That in many cases of diseased tubes there is complete communication between the uterus and the tube. In Dr. Lewers' 100 *post-mortem* cases, in 8 cases out of the 17 cases of disease of the adnexa, the dilated tubes freely communi-

cated with the uterus, in 2 cases (where the tubes were occluded on both sides, there was communication with the uterus on one side but not on the other ("Pathological Card of Fallopian tubes," *Obstetrical Transactions*, 1887, p. 220.) Dentu describes 2 cases in which there was spontaneous evacuation of the tubal contents per uterus. (*Nouveaux Archives de Gynecologie*, vol. vii., 1892, p. 127-8.) Two more cases he mentioned in the Congress of Surgery, in 1891.

(3) It is also stated by Dentu, that in most if not all cases of *hydrosalpinx* the opening with the uterus is patent. Indeed the very symptoms of the disease, recurring from time to time, especially when the patient has caught cold, or as a sequence of endometritis, and when as generally believed the dropping of some of the secretion into the peritoneum, gives rise to slight peritonitis, is proof of this patency, on the uterine side from whence came the recurring inflammation. Clearly, therefore, as in its earlier stages and even sometimes later, you cannot, unless you perform abdominal section, know whether it is a case of *hydrosalpinx* or *pyosalpinx*; the indication is to treat the case *per vias uterinas*, as if it were the former.

(4) It is beyond doubt that in many cases where the abdomen has been opened and adhesions or portions of the annexes removed, nature has subsequently gone far to cause all, or very nearly all, morbid appearances to disappear. This has been proved not only by *post-mortems* of patients on whom laparotomy has been performed for disease of annexes, or adhesions have been separated, but also by those cases in which the abdomen has been opened a second time for some other disease, and in which, on examination, restoration to integrity in an adnex previously operated on has been observed.

Lastly. It must also be borne in mind that an ovarian abscess, quite the size of a hen's egg, may become dormant. The more liquid parts are absorbed and a substance not unlike that found in wens fills up the organ, and is otherwise harmless. Twice I have seen this. Once in a young lady

who had abscess of the ovary. The pain and local symptoms entirely subsided. Later on in life she died of poisoned blood. The ovary was found at the *post-mortem* in this condition. In another case in which I performed ovariectomy for a cyst on the right side, the ovary on the left side, about the size of a pigeon's egg, contained a similar cheesy substance. Several years before I had treated her for left salpingitis, and for years back it had given no trouble.

The treatment of many of these cases beginning through the uterus itself has been practised by Doleris, Dentu, Mangin, Dr. Bell, of Glasgow, and more lately by Dr. Robert A. Murray. The last named gentleman's cases are fully detailed in the GYNÆCOLOGICAL JOURNAL for November, 1893.

The plan of treatment adopted by all these gentlemen with some slight modifications may be generally described as follows: First, perfect rest is enjoined. Secondly, the inflamed adnex is treated by ordinary antiphlogistic measures, so often neglected by those affected with the "*furor secandi*," blisters locally, hot antiseptic injections, purging and allaying any feverish excitement. When this has been done, and the more active symptoms are overcome, then dilatation of the uterine cavity by sea tangles or sponge tents carefully asepticated can be safely carried out. The uterus by the second or third day is dilated sufficiently. It is then curetted thoroughly, and plugged with iodoform gauze. Under this system experience has demonstrated that the inflammation of the adnexa disappears, and the patient enters into convalescence.

It should be remarked that in these cases it is impossible, as the abdomen is not opened to say whether these are cases of pyosalpinx or salpingitis, but probably many of them are. Nineteen cases are so recorded by Dr. Doleris, and twenty-five by Mangin, in all of which recovery took place. In several of the cases detailed discharges of a purulent character passed *per vaginam*, and drainage had to be had recourse to. At any rate, they prove that in ordinary cases of salpingitis, chronic or acute, castration is not necessarily required.

The cases of Dr. Murray, which are given under the cases treated for gonorrhœal inflammation of the tubes, however, are more striking still, and were all cases of pyosalpinx, and got well by precisely the same mode of treatment as the cases of Doleris and Mangin.

In a few of the cases of Doleris and Mangin electricity was employed as an adjunct, but more with a view of diagnosing the extent of the inflammatory lesion, and whether it was acute or chronic.

THE ELECTRICAL TREATMENT IN GONORRHŒAL CASES.

Of inflammation of annexes as a result of gonorrhœa—some years back when in Paris, and through the kindness of Dr. Apostoli, whilst following his Clinic, I was surprised at the readiness with which this variety of disease was cured by electricity. The principle was to place one of his pads on the belly and a stillette well guarded by non-conductors inferiorly, but the upper inch of which terminated by an envelope of charcoal, was placed within the cavity of the uterus. The electrode on the belly was positive, that in the uterus negative, and then for about ten minutes a continuous current of so many milliamperes as did not give rise to much pain, was passed through the pelvis. Now these cases had all a genuine history of gonorrhœa. In these we had the characteristic urethritis, and the ovaries and tubes were painful and swollen. These cases all got well. I thought at first that the charcoal in utero might act as a counter-irritant. But I find that two other causes may be assigned. One that dilatation of the tube is induced by the electric current and so allows the fluid to escape readily in utero. This has been denied, and indeed pronounced to be a dangerous operation. Dr. Kehrer, quoted by Mr. Alban Doran in his paper read before the Medical Society on the "Treatment of Chronic Disease of the Uterine Appendages" (*Medical Society Transactions*, vol iv., 239), has stated that it may, if applied to the uterine cavity, cause rupture of a suppurating Fallopian sac. It is a pity that in such cases the

variety of current and its power, and which pole was placed in utero are not definitely stated, also whether it is a strong interrupted current or continuous one, either it is evident might produce this result, especially if the positive, but I am satisfied that the continuous negative current does produce dilatation of the uterine cavity. Even if scarcely admitting a quill it will soon allow two fingers to be introduced. The positive has the opposite effect, as I have often verified. How also does it act in cases of stricture of the urethra in the male? This shows how necessary it is to be more precise in these objections. Dr. Prochownich has stated that even forty milliamperè currents cannot be borne in the female urethra, but then he does not say whether he refers to the positive or negative pole.

But a second reason has been given by Dr. Prochownich. Electricity is fatal to gonococci, as he has often proved, even killing the germs, and the uterus can bear safely a current up to 120 milliamperès. Mr. Doran, in reference to this statement quoted in his paper, says "this statement sounds wild, yet it at least claims a definite action." This is a philosophical observation, and verifies the old proverb, "Truth is stranger than fiction." This electrical action, however, receives confirmation from the Webster process of purification of sewers by electricity. A strong electric current is passed through the sewage by means of iron electrodes. It is claimed that by this process the organic constituents of sewage are not only split up by electric action and precipitated, but oxidised by the nascent oxygen and chloride oxides evolved. Tried at Salford it gave fairly satisfactory results. But this process has been much simplified by M. Hermite of Havre, and examined on behalf of the British Institute of Preventive Medicine by Dr. Ruffer. Hermite's plan is to pass a current of electricity through sea water. This leads to ozone, free chlorine and various unknown oxygenated products of chlorine being set free; which possess a marked oxidizing and bacterioidal action. It not only kills these organisms, but destroys all odours, even the black sides of sewers become polished and clean when this sea water is

passed into the sewers. It is clearly evident from this, that Apostoli's treatment of gonorrhœal salpingitis and ovaritis is based upon a scientific foundation. It is manifest, therefore, in such cases even the electrophobists in our profession should pause before they practise castration.

This conclusion in no way militates against the mode of treatment of gonorrhœal cases adopted by Dr. Robert A. Murray, and recorded in our last quarter's Journal; indeed it is rather confirmatory as effecting a cure without castration. He cures his cases by the measures before detailed—rest antiphlogistics, dilatation, curettage, &c., but this plan appears simpler.

Cases treated entirely through the uterus and by puncture of the pyosalpinx through the vagina or rectum.

In the Association Journal (ii., 1888, p. 828) a curious case of salpingitis and ovaritis is described by Schlesinger of St. Petersburg. She was a multipara, age 42, ill after an abortion with a tumour in the right iliac fossa, operated by abdominal section by Dr. Seydel, February 21, 1884. Particulars are fully given. Finding he could not remove it, he aspirated the tumour, drawing by suction with his mouth the purulent contents in the tube four times daily. A little fever followed for a week, but in a fortnight the opening began to close and the patient recovered. Two years after this woman continued in perfect health.

Now here was a case which, with our appliances, could have been treated far better by a proper aspiration syringe of the present day and without need of abdominal section at all.

I may say that starting with the certainty that in nearly all cases of salpingitis the disease originates within the uterus if we attack that organ as we should any inflamed organ elsewhere, we can arrest the process of the disease, and this is the plan that I advocate; perfect rest being insisted on.

(1) Local blood-letting, either by scarifying the cervix, or cutting the os on both sides to promote some escape of blood, or in other cases five or six leeches applied to the cervix. In

the case of virgins, if the hymen be very small and not easily dilated, I apply leeches around the anus after the French mode, occasionally over the region of the adnexes.

But (2) I prefer, instead of applying leeches over the locality of the adnexa, to apply a blister there, or I use the liquid blister two coatings, and then cover it over with medicated cotton. The blister will rise in about eight hours fully, and so soon as I have cut open the bullæ, the cotton is applied again, and in about three hours more bullæ have risen which are again cut and the cotton applied a third time. Some bullæ will probably rise again when cut a third time; the blistered portion may then be dressed in the usual manner. One blister has thus done the work of three.

(3) Using antiseptic measures freely, if I find that the tubes are relieved, the application of strong iodine or carbolic acid to the uterine cavity will often determine a cure.

(4) If not, dilatation by sea tangles, carefully ascepticized is affected and then strong iodine applied. I do not usually find it necessary to use the iodoform gauze, but have repeated the sea tangle tent covered with cotton dipped in carbolic acid.

(5) Supposing, however, that the ovary or tube continued to enlarge, I should use hot douches in the vagina, hot poultices on the abdomen, keep the bowels well open by gentle purgatives and enemata, and treat any feverish symptoms as in ordinary cases of inflammation.

(6) When I can detect fluctuation, I linger no longer, but aspirate. If the matter is not offensive, I inject the cavity with a solution containing iodine, and put no drainage tube in. If it is offensive, then I leave a drainage tube in, and wash out the cavity daily with iodine, until the discharge is very inconsiderable in quantity when, left to itself, it generally heals.

A question here presents itself—where should the perforation be made *per vaginam*, rectum, or abdomen? I have successfully performed the operation of puncture in all these three situations. Wherever the swelling can be most readily

DOLERIS'S CASES.

Reference Dolera.	Previous History.	Previous Treatment.	Condition on Arrival.	Measures Adopted.	Result.
Case I.— p. 116, vol. 22, M.	Oph'ro-salpin- gitis double, endometrit- is, com- plete ante- flexion.	First curet- ting, then electricity, failure, re- fuses remov- al.	Left ovary en- larged, uter- us enlarged, great pain, ovary size of turkey's egg.	Perfect rest and injec- tions and glycerine plugs.	Cure.
Case II.— p. 618, vol. 25, M.	Metritis and perimetritis, subacute postpartum, intense pain and menor- rhagia.	Nitrate of sil- ver, canteri- zations, ag- gravating symptoms.	Endometritis, left salpin- gitis, tu- mour size of big egg on tube, hard, very pain- ful, uterus to left side and ante- flexed.	Antiseptic pluggings, then dilata- tion by tents and curet- ting, later on alight follicle in cervix cut.	Cured, al- though de- layed, loca- lity of the tubes can be indistinctly felt.
Case III*.— p. 620, vol. 24, M.	Irregular cata- menia, a fall while preg- nant, great hemorrhage delivered at term, fever, later on he- morrhagia, intense pain.	Cold ablutions and rest in bed.	Both tubes large as oranges, hard, con- taining liquid, bris- tles in vagi- nal cul de sac, ante- flexion, ova- ries not felt, supposed old results on inflam- and new.	First antisep- tic washings internally, 2 lamina- ria intro- duced, then sponge tent, curettage, and iodo- formed gauze.	Cured.
Case IV.— p. 23, vol. 7, vol. 20, M.	Good health, metritis after mar- riage and confinement.	Nitrate of sil- ver locally applied.	Double salpin- gitis, pro- lapsed ova- ries, perime- tric exuda- tions, ante- flexion.	Prolonged dilatation of uterine cavi- ty, Schro- der's opera- tion.	Cured.
Case V.— <i>Ibid.</i> , p. 25, vol. 23, S.	General leu- corrhoea, subsequent bleorrhoea of cervix, left iliac pain.	Corrosive sub- limate in- jections, rest and va- ginal tam- pons.	Cervicitis, chronic left salpingitis.	Dilatation, drainage, curettage, bilateral in- cision of cervix and neck.	Cured.
Case VI.— <i>Ibid.</i> , p. 27, vol. 7, vol. 22, M.	16 years dys- menorrhoea and leucor- rhoea, mar- ried at 18, connection very pain- ful, vulvo- vaginitis, more comp- lications, septicæmia. Ill off and on, frequent hemorrhages for 6 weeks, sup- posed mis- hap, abnor- mal pains intensified, leucorrhoea.	Perfect rest, blisters and febrifuges for a week.	Uterus fixed, antiflexed cervix, small os, swellings hard, reach- ing to iliac regions, double oophoro-sal- pingitis.	Sea tangle ap- plied to uterus, with copious bleeding, then sponge tents two days fol- lowing, partial ex- istence of tumour, cu- retting per- formed, fol- lowed by iodoform gauze, two days later repeat intra- uterine plugging, tumour	Cured, tubal swelling en- tirely dis- appeared.

* This case is remarkable in that she returned home every day with the tent in her, coming back from time to time to be treated in the same manner.

DOLERIS'S CASES.

Reference Doleris.	Previous History.	Previous Treatment.	Condition on Arrival.	Measures Adopted	Result.
Case VI.—continued				much diminished, uterine cavity again plugged, 2 days after all traces of tumour gone.	
Case VI.—relapsed.	Guilt of imprudence, leaving hospital too soon, 3 wks after curettage no tumour right side, but one at left very large, attempts made to dilate uterus fail, found under chloroform to be due to a bridge.	None.	Recurrence of left ovaro-salpingitis, right healthy, bridge of adhesion in uterine cavity.	Bridle of fastening cut, and then 2 laminariae side by side applied, kept in situ by a vaginal plug, then sponge tent, then under chloroform, 2nd curettage, and drainage.	Cured, all traces of tubular swelling gone.
Case VII.—p. 40, vol. 34, M.	Pregnancy at 19, followed by mishap, peritonitis, slight progression, supposed typhilitis or salpingitis.	Nitrate of silver, cauterization of neck.	Numerous deposits all round in Douglas's space, double salpingitis, vaginal fistula.	First hot injections and iodoform plugs, tents, as in other cases followed by hemorrhage, cauterizing, and iodoform gauze.	Cured.
Case VIII.—p. 44, vol. 25, M.	Leucorrhoea following marriage, vaginismus.	Irrigations, forcible dilatation of vagina.	Vaginitis, vaginismus, double oophoro-salpingitis, endometritis.	Curettage, dilatation, abrasion of cervical mucous membrane, drainage of uterine cavity.	Cured.
Case IX.—p. 48, vol. 18, M.	Diseased by husband, pelvic inflammation, gonorrhoea, dysmenorrhoea.	Moderate dilatation, caustic pencillings, amelioration.	Double pelvic inflammatory tumour and chronic salpingo-ovariitis.	Progressive dilatation, curettage.	Cured.
Case X.—p. 97, vol. vii, 1892. Arch. de Gynecol. aged 22.	Endometritis since marriage, metrorrhagia, dysmenorrhoea, sterility.		Endometritis, vaginitis, tubes and ovaries swollen, tender, prolapsed, adhesions.	Dilatation, curetting, trachelorrhaphy, colporrhaphy.	Rapid disappearance of swellings, quite well 3½ years after.
Case XI.—p. 97, vol. 20, M.	Masturbation, leucorrhoea at 22, syphilis at 25, abortion.	Repeated applications of caustic.	Metritis and endometritis, double adherent tubo-ovarian swellings.	Dilatation, curetting, supra-vaginal amputation of cervix, glycerine	Well, and actively engaged two years after.

DOLERIS'S CASES.

Reference Doleris.	Previous History.	Previous Treatment.	Condition on Arrival.	Measures Adopted.	Result.
Case XI.—continued.				and creosote tampons.	
Case XII.—p. 98, vol. 27, M.	Aborted 9 mos after marriage, acute perimetritis 1888.	Blisters, &c.	Fluctuating tumour in pouch of Douglas and to right of uterus, tumour to left probably dilated tube.	Rest, douche, gradual dilatation by tents.	Whilst being treated had pulmonary congestion, and pus and blood passed per rectum, all symptoms yielded, 1892 well, though occasional hypogastric pain.
Case XIII.—p. 100, vol. 28, M. 11 years	Perimetritis after third parturition.		Cystocele, rectocele, prolapsus uteri, torn cervix and perineum, left tubal swelling.	Dilatation, out-retting, amputation of neck perineorrhaphy.	Perfect health 34 years after.
Case XIV.—p. 152.			Tumour size of orange, mobile, painful, in true pelvis.	Sent patient to Prof. Du-play who refused to operate.	Tumour disappeared entirely in one month, (?) encysted serous perimetritis.
Case XV.—p. 103, M.	Acute perimetritis, post-abortion.	Offensive debris scraped from uterus.	Four months after abortion recurring inflammation, fresh attack two years afterwards of perimetritis, after 3 weeks rest both tubes and ovaries were found swollen, tender, semi-fixed.	Hot douches, glycerine tampons, operation refused by patient, so merely palliative treatment.	Four year later was quite well, and pelvis normal.
Case XVI.—p. 110, vol. 18, B.	Acute perimetritis after criminal abortion		Enormous pelvic tumour.	Three months in bed, blisters, injections, tampons.	Nine years after, cure absolute.
Case XVII.—p. 110, M., 3 ch.	Puerperal fever nearly proving fatal.		Large suppurating tubo-ovarian tumour.		Cured after 3 months grave illness.
Case XIX.—p. 148, M.	Husband had gleet when he married, five weeks after marriage acute perimetritis of tubal origin.		Large tubal masses fixed in inflammatory exudation.	Entirely palliative at first, in 2nd year was curetted for menorrhagia and sterility.	In 4 months no traces left, 5 years after was quite well, no recurrence.

MANGIN'S CASES.

Reference.	Previous History.	Previous Treatment.	Present State.	Measures adopted.	Ultimate Result.
Case I.— p. 349 Dr. Mangin, et. 40, M. 12 years, 1 child.	Pelvic trouble after abor- tion, and for 8 years be- came gradu- ally worse.		Torn cervix, chronic endometri- tis, right tube and ovary swol- len, low.	Amputation of neck of womb and curetting.	9 months after pain very slight, right ovary still too large, 2 years after "always a little ner- vous," right ovary still very possi- ble.
Case II.— p. 351, vol. 7, 1892, et. 24, M. 6 years, 2 children still born.	Metro-perito- nitis after 2nd child.	Caustics to uterus.	Right ovary prolapsed and large, left ditto, right tube size of finger	Dilatation, curetting.	10 months after much better but "nervous still very marked," aborted a year after this, follow- ed by some left-sided pain, which yielded to palliative measures.
Case III.— p. 352, et. 38, M., 6 child- ren, last 10 years ago.	Left-sided pain, hæ- morrhage, and leucor- rhœa since abortion.	Palliative.	Chronic endo- metritis, left ovary and tube firm, mass size of small orange.	Curetting, prolonged dilatation kept up by iodoform gauze.	Cured as to pelvis 3 years after, but had de- veloped pul- monary tu- berculosis.
Case IV.— p. 363, et. 24, M. 19 years, 1 child 4½ years ago.	Sub-acute me- tritis and perimetritis after par- turn, and re- currence 8 months later, and after two abortions.	Palliative.	Uterus mobile subinvolut- ed, left tube and ovary low and swollen, neck of womb healthy.	Curetting.	Recurrence of inflamma- tion after going home, but rapidly improved, became pregnant 2 years after.
Case V.— p. 354, et. 25, M. 4 years, 1 child 3 years ago.	Peritonitis afterpartum and recur- rence since, remained ill and in great pain.	Application of iodine to uterus.	Torn cervix, uterus fixed, right ovary very large and painful.	Dilatation, curetting, tamponing, amputation of neck.	3 months after felt much better, tubes and ovary still too large, 2 years after all was nor- mal.
Case VI.— p. 356, et. 26, M. 7 years, 2 children, last 3 years ago.	Slight metritis after 1st child 6½ years ago, last 2 years vaginitis, cystitis, right-sided pain.		Urethritis, vaginitis, endometri- tis, right salpingo- ovaritis forming tu- mour size of mandarin orange.	Dilatation, curetting, tamponing.	Beyond dys- menorrhœa was better for 1½ years then influ- enza and some recur- rence of pel- vic pains, &c.

MANGIN'S CASES.

References.	Previous History.	Previous Treatment.	Present State.	Measures Adopted.	Ultimate Result.
Case VII.— p. 371, set. 37, M. 6 years, 1st child 6 years ago.	Metritis and perimetritis after partur 5 years ago.		Endometritis, left salpin- go ovaritis, retroflex- ion, torn everted cer- vix, tubes and ovaries prolapsed.	Curetting, amputation of neck.	3 months after was better, but ovary and tube still tender and low, 2 years after still "ner- vous," but feels very well, retro- flexion per- sists, un- symptomati- cal.
Case VIII.— p. 372, set. 24, M. 5 years, 1 child 4½ years ago.	Right-sided pain since partur, va- ginitis and cystitis.	Palliative.	Left ovary large and tender, right ovary and tube ditto, endo- metritis.	Curetting, prolonged dilatation with ich- thol and glycerine.	A year after better, but dyskinesia and still much dis- comfort, physical signs im- proved.
Case IX.— p. 374, aged 29, M. 12 years, 3 children, 2 abortious.	Ill since last partur.		Endometritis, left salpin- go ovaritis.	Curetting, amputation of cervix.	Prompt relief of all symp- toms, slight recurrence 2 months later, nor- mal confine- ment two years later.
Case X.— p. 374, set. 37, M. 1 child, 3 years ago.	Septic inflam- mation after ab- sorption, pelvic pain, especially left side.	Caustics.	Chronic en- dometritis left salpin- go ovaritis, ovary pro- lapsed.	Curetting, and ampu- tation of cervix.	A year after felt quite well.
Case XI.— p. 375, set. 37, M. 14 years, 1 child 13 years ago.	Eclampsia during first partur, forceps, pelvic in- flammation followed, syphilis 6 years ago, acute metritis 4 years ago.	Actual Can- tery, &c.	Torn cervix, chronic me- tritis, uterus fixed, tubes and ovaries involved.	Curetting, and ampu- tation of cervix.	A year after was quite well, uterus slightly mo- bile and ovaries and tubes nor- mal.
Case XII. p. 423, aged 25, M. 14 years, 1 child 12 years ago, 2 abortious.	First partur followed by perimetritis, perito- neum torn.	Perinorrh- phy two years ago.	Uterus low, subinvo- luted, two tubal tu- mours.	Curetting, tamponing uterus.	Tubal tu- mours in- creased in size for a few weeks, and laparo- tomy dis- closed, pa- tient how- ever made a good re- covery, and a year after had only slight pain in right side.

MANGIN'S CASES.

Reference.	Previous History.	Previous Treatment.	Present State.	Measures adopted.	Ultimate Result.
Case XIII.— p. 429, et. 60, M. about 25 years ago, 5 children.	Perimetritis after abor- tion 25 years ago, trouble after each parturn, 4 months ago sudden acute pel- vic inflam- mation.		Cervix torn, uterus fixed, tubo-ova- rian swell- ings.	Electrolysis 40 milliam- peres, pal- liative, cu- retting, am- putation of cervix.	One month after curet- ting felt quite well, right tube still large but pain- less, some recurrence 3 months later and again 9 months later and 18 months after was quite well.
Case XIV.— p. 432, et. 35, M. 2 children.	"Fever" after last parturn		Endometritis, left ovary and tube matted, size of egg, prolapsed, perineum and vagina torn.	Curetting, amputation of cervix.	No better.
Case XV.— p. 433, et. 35, M. 13 years, 3 children (forceps), last 3 years ago.	Pelvic inflam- mation after last parturn		Chronic me- tritis retro- version, ova- ries and tubes pro- lapsed and adherent, and large, especially left, uterus semiflexed.	Adhesions broken down, dila- tation, cu- retting, ex- cision of part of cer- vix, anterior colporrhaphy, perineor- rhaphy.	One year after was quite well.
Case XVI.— p. 436, et. 27, M. 6 years, 1 child 3½ years ago.	Right-sided pain since parturn.	Palliative.	Endometritis, cystocele, rectocele, right ovary and tube prolapsed, large, ten- der.	Curetting, amputation of cervix, anterior col- porrhaphy, perineor- rhaphy.	Dysmenor- rhea alone persisted, the ovary and tube re- mained too large.
Case XVII.— p. 434, et. 29, M. 11 years, 3 children, 2 abortions.	Ill since last abortion, mainly dys- paremia and dysuria.		Metritis, cys- tocele, right ovary and tubes pro- lapsed, and forming tu- mours size of egg, and adherent to uterus.	Curetting, amputation of cervix, anterior col- porrhaphy, perineor- rhaphy.	A year after was quite well, except some dys- pnea.
Case XX.— p. 451, et. 30, M.	2 years after marriage pelvic inflam- mation, right ovaro- salpingitis or hemato- salpinx.		Seen nearly at onset. See previous history.	Palliative.	9 months after was nearly free from pain, and a small hard nodule in right broad liga- ment region could alone be detected.

MANGIN'S CASES.

Reference.	Previous History.	Previous Treatment.	Present State.	Measures Adopted.	Ultimate Result.
Case XXII. p. 155. aged 28, M. 6 children 2 abortions.	Inflammation after last abortion.		Metritis. Double oöpho-salpingitis, posterior para- and peri-metritis.	Curetted, actual cauterization to cervix.	6 months after was quite well. Became pregnant 2 years after curetting.
Case XXIII. aged 38, M. 12 years 4 children.	Some pelvic trouble whilst carrying fourth child, acute peri-metritis followed birth, 18 months after again pregnant, left peri-metritis recurred.	Palliative treatment.	Torn cervix, prolapsed adherent swollen left ovary, peri-ovariitis, endometritis.	Emmet's operation, curetting. Later on neck of womb amputated.	Was no better for this treatment. Cure, "patient remains nervous."
Case XXIV. p. 158, aged 30, M. 6 children.	Fungous endometritis. Two months later menorrhagia.	Dilatation, curetting. Nitrate of silver applied to endometritis and uterus plugged. This treatment followed by bilateral pelvic inflammation.	Uterus, parametritis and broad ligaments tender and inflamed.	Palliative.	Became pregnant after 2 months treatment, and aborted after amputation of neck of womb in a hospital, after which had fresh pelvic inflammation.
Case XXV. p. 159, aged 24, M.	Pelvic trouble after 1st and after 2nd child.	Palliative.	Endometritis, right tube and ovary large and prolapsed, left tube knotty and thick.	Curetted twice and Emmet's operation.	8 months after still in pain, ovary and tube swollen and low. 6 months after became pregnant, confined at full term, and 4 years after was in excellent health.

The foregoing tables were exhibited by Dr. ROUTH
in connection with this paper.

felt, and where its coverings are thinnest. With antiseptic precautions, all are safe, but as a rule where it can be avoided, I think it is safer not to puncture through the abdomen.

Then as to the choice of the vagina or rectum. The vagina is the cleanest medium, but it is also an open cavity and we must not forget that each time a woman *expires*, the external air has a tendency to rush in, and so air may enter into the abscess you have opened, and require through the drainage tube a much longer use of the iodine lotion. The rectum is closed and not so influenced by respiration, and for this reason if the abscess be low down it is advisable to puncture through that cavity, and this is especially the case with virgins. Care should be taken to use a drainage tube with a catch, so that once placed in position, it will remain *in stato quo*, and not come out.

Part IV.

CASES.

Feb. 14, 1880. Mrs. A., aged about 22. Right ovary inflamed, tender, afterwards the left, subsequently at periods dysmenorrhœa. Treated by blistering and purging, afterwards tonics. Became pregnant. Confined October, 1883. Subsequently about six weeks after change of residence ovarian trouble returned. Punctured, a small quantity of pure, healthy pus came away ; recovery subsequently rapid.

Mrs. F. W. A., aged about 30. Mother of three children. Had suffered from menorrhagia. In June, 1880, after trial of various remedies uterus dilated, curetted, bringing away two mucous polypi size of large beans. Touched cavity freely with iodine paint. Recovery complete. About three weeks subsequently in July, lay down very thinly clad, on a very hot day close under an open window. Left ovarian inflammation followed, fever, &c., finally in about two weeks punctured, giving exit to much foetid pus in August ; washed out with iodine. Some tenderness higher up on right side followed and some matter escaped. Recovery complete.

Mrs. McC., aged about 35. Married several years without

children; very neurotic, anæmic. Had had several attacks of endometritis. In 1880 had a good deal of dysmenorrhœa and several attacks of ovarian pain, cystitis and indigestion. Finally fever set in and an abscess formed in the left ovary. This was opened with the aspirator and about $\frac{1}{4}$ pint of very fœtid pus withdrawn, the cavity being well washed out with iodine. Amelioration followed, but a relapse took place, and the abscess was again opened, fœtid pus again withdrawn, and the cavity washed out with iodine, a drainage tube was kept in, and the cavity washed out daily. Perfect recovery followed. But she is still very neurotic, and liable to attacks of sickness and ovarian pain.

Mrs. M. Married some years, childless, not living with her husband, stating he had given her syphilis. Was residing in a hotel during the winter. Was seized with diarrhœa during a cold night, went down badly clothed to a water-closet two stories below, caught a chill. A large abscess formed in the left ovarian region. As soon as she could be conveniently removed to a private hospital after several days of complete rest, I punctured through the abdomen, where it was pointing with the aspirator—a quantity of air first made its exit, then about $\frac{1}{2}$ pint of very fœtid pus—iodine was injected and a drainage tube kept in. Recovery followed. I heard of this patient about six months afterwards, she expressed herself as delicate but much better. This illness occupied about two months. A quantity of solid effusion existing in Douglas' space remained in process of absorption when last I saw her.

Mrs. R., 7 years ill; perityphlitis; one child. Proci-dentia followed, then metritis—intense dysmenorrhœa producing almost insanity. Uterus inflamed; os almost closed. Came under my care February, 1890. Great tenderness of uterus, liver, and annexes; specially left side. Perfect rest, anodynes, purgatives. Counter-irritation. In August a buckle pessary introduced. Great relief to all symptoms. The buckle pessary was kept in till March, 1891, when it was removed. She missed it greatly, and was anxious to have it replaced. On examination in June, 1891, found metritis present, left ovary

again enlarged and tender, and liver large. Rest, blisters and counter-irritation reduced this state, and she left comparatively well. All enlargement of ovary had disappeared, but there was dysmenorrhœa present, which however was completely relieved by medicine. This case was very trying, the patient being very much spoilt and neurotic, and the fever extreme, and the intestines from the first more or less matted together.

Miss McC., unmarried, a short, very thin, delicate woman consulted me for symptoms of dysmenorrhœa. Pain in both ovarian regions, the left was originally the most painful, but now the right. There were the usual co-existing symptoms of endometritis, leucorrhœa, &c. On examination the left ovary was distinctly enlarged to about the size of a large pigeon's egg, but scarcely tender. No fluctuation in it. The right ovary felt as large as a turkey's egg, and was very tender, quite fixed to surrounding parts, but with a distinct indication of fluctuation. The question was, should I aspirate or perform abdominal section? In consultation with a distinguished abdominal surgeon, he was strongly in favour of opening the abdomen. I did so with the usual precautions. I found the left ovary about the size of a pigeon's egg, hard, but without any signs of inflammation. It had contained pus I thought, but the watery particles having been absorbed it was almost solid. Not so the right ovary. This was very much of the shape of one of Barnes' largest bags, matted and adherent to the surrounding tissues, and the covering in several places as thin as paper. I declared my inability to remove this entirely, and wished to perforate and wash out the sac. My surgical friend thought he could do it, and with my permission attempted to do so, but failed, bursting the sac, and letting out very putrid pus; we removed the remains of the sac, sponged the matted intestines as well as we could, but the patient died in three or four days from septicæmia, spite all we could do for her. Now I have very little doubt that had I aspirated this case I should have given my patient a better chance of life. The putrid contents of the ovarian sac were

not more putrid, nor was the sac larger than other cases where I have aspirated and saved my patient's life.

March, 1891. B. R., aged 40. Married 15 years. Multipara. Catamenia, 4-6 weeks interval; scanty. Has had a stationary fibroid of uterus for 10 years reaching to umbilicus.

Present illness. Was chilled by up draught in w.c. during period, followed next day by rigor, pelvic and general pains. Temperature for first few days between 100° and 102° . On seventh day temperature rose to 105° , and for next two weeks varied between 102° and 104.6° . Pelvic examination showed lower zone of uterus fixed by hard phlegmon in sub-peritoneal cellular tissue, being especially marked on both sides of vagina, reaching lowest on right.

Aspirated deeply behind and to right of cervix and 3vi. of most offensive brown pus drawn off. Cavity washed out with iodized water. Temperature remained high for some days after an initial fall, and then slowly subsided to normal in fifth week. The same night that the aspirator was used, an adjacent abscess containing inodorous pus opened into the bladder, but after twenty-four hours no pus passed by the urethra. Patient convalesced slowly but satisfactorily.

S. M. July 15, 1892. Age 38. Married. One child eighteen years ago. Had a rigor after last "period," with severe right abdominal pain. Temperature 101° to 103° . Examination—Cystocele; uterus prolapsed, fixed and pushed forward by tense bulging, elastic mass in Douglas' pouch and behind right broad ligament.

July 16. Aspirated *per vaginam*. 3iij. foetid pus drawn off. Cavity washed out with iodized water. Exudation gradually cleared up, and temperature fell gradually, being 99° to 101° in first week, 98° to 100° during second and normal during third.

Discharged convalescent and uterus mobile.

I could add other cases, but these I trust will suffice to prove the advantage of aspiration as a method of cure.

CONCLUSIONS.

(1) The ovary besides being concerned in ovulation secretes especially, but in conjunction with other glands, a peculiar principle, spermin, which being reabsorbed into the blood is most useful in its nutritive, oxygenating and recuperative power in maintaining the well-being of the female, and the want of which leads to bodily and mental debility. (Part No. I.)

(2) Complete castration of females leads to forced sterility and in many cases to the induction of an earlier menopause and premature old age, and frequently to decay and perversion of mind. Partial castration produces the same effects in a minor degree. (Part No. II.)

(3) The mortality of cases of diseased adnexa left to themselves varies from *nil* to 4 per cent.

(4) But the mortality of cases operated on by abdominal section varies from 2·5 per cent. to 12·1 per cent. (Part III.)

(5) Complete castration has been practised too frequently and often unnecessarily.

(6) Preceded by abdominal section, the modes of operating more conservatively by *partial*, castration and resection of tubes, or tubes and ovaries combined, and by ignipuncture of cysts in the latter, give much more satisfactory results with less mortality even in cases of pyosalpinx and with no impairment in power of child-bearing. (Part IV.)

(7) The mode of treating the diseased appendages per vaginam and rectum, without abdominal section, by acting on the uterus itself, by electricity even in cases of gonorrhœal, pyosalpinx and puncture by aspirator offers the greatest advantages, the mortality being almost *nil*, the recoveries durable, and the motherhood left intact.

ORIGINAL COMMUNICATION.

MODERN OVARIOTOMY.

BY LEITH NAPIER, M.D., M.CH., F.R.S.ED.

Preparation for the Operation.—Except in cases of urgency, as for example in peritonitis from twisting of the pedicle, it is desirable to attend to the patient's general condition by careful rest in bed for some days before operation. No special system of dieting is required if we enjoin that everything eaten should be very plain and digestible. The day before operation the patient should have her skin thoroughly cleansed by bathing in hot water with the free use of soap. A good purge by means of some saline aperient should be given and the rectum should be emptied by an enema of soapy water, oil and turpentine. It is advisable to give another enema of plain hot water early in the morning of the operation. If the pubic hair is relatively high it should be shaved, but this is seldom necessary for ovariectomy. The vagina should be douched with a solution of perchloride (1.2000), or of biniodide of mercury (1.1500) and thereafter a gauze pad placed over the vulva. The abdomen should be thoroughly washed with soap and water, then rubbed well with turpentine, after which a pad moistened with mercuric or carbolic acid solution and covered by protective is applied; the antiseptic abdominal pad should be worn for at least two hours before operation, and removed only by the surgeon personally. No solid food should be permitted for twenty-four hours before operation, in fact, after the preliminary purgative of the day before, it is better to give nothing but bland fluids such as milk and clear meat soups, and to enjoin abstinence from everything except a little milk and water

for three hours before operation. The patient should wear new flannel drawers, woollen stockings and a well aired clean night-dress for the operation. The room in which ovariectomy is performed may be small, but it must be absolutely clean and light, with the temperature about 65° F. Any good firm table will do, a white wooden table carefully scrubbed with soap and water and then with 1 in 20 carbolic solution answers every purpose. We prepare the table by covering it with a clean blanket or two, on the top of which is a piece of waterproof sheeting and above this a clean sheet. The nurse should empty the bladder before the patient is placed on the table, her hands should be aseptic and the catheter a new one dipped in 1 in 30 carbolic lotion before being introduced.

However good a nurse is the surgeon will spare himself possible anxiety if he personally sees that all things likely to be needed are not only at hand but in proper condition. Sponges, which have been carefully rendered aseptic, should be counted; from twelve to twenty may be required, usually twelve are quite sufficient; of these there should be three or four large flat sponges for placing over the bowels. The instruments needed will depend on the individual operative habits of the surgeon. The following are all that are usually required: a straight sharp scalpel; dissecting forceps; a curved blunt-pointed bistoury; a director; two or three pairs of scissors, one curved on the flat and one blunt pointed; two or three large pressure forceps, twelve pairs of straight pressure forceps; a pedicle needle, a needle on handle, some different sized Hagedorn needles, and one needle-holder; some different lengths of Keith's drainage tubes; an ovariectomy trocar and cannula; sponge holders, plain needles, sutures of silk and chromicised catgut in different sizes; and silkworm gut for suturing the abdominal wound. Useful additions to the list are retractors; an electric lamp for intra-abdominal illumination; a Paquelin's thermo-cautery; a hand-mirror; an aspirator; elastic ligatures, or Kœberlé's, or Fenton's *serre-nœud* and pins. It will be found useful to keep a written list of instruments

required, at hand, otherwise surgeons who operate in private may discover at the critical moment that something has been forgotten.

Some suggestions made by Goodell are well worth the attention of beginners. He suggests that the operator should write to the physician for whom he is to perform the operation, or to the nurse in charge, asking that the following articles should be procured: Two yards of rubber plaster, two rolls of raw cotton which have been well baked in an oven, and then wrapped up in clean brown paper, two yards and a half of all wool flannel for two binders (at the Chelsea hospital we use a many-tailed bandage in preference), two pounds of ether with inhaler or a clean towel without fringe, and a newspaper with which to make a cone. Two ounces each of strong solution of iron, tincture of iodine and tincture of matico. One gallon and a-half of 5 per cent. solution of crystallised carbolic acid. A solution of 1 in 1,000 perchloride of mercury is prepared to disinfect the hands and arms of the operator, assistants and nurses; half an ounce of iodoform, some antiseptic cotton tablets, of corrosive sublimate, whiskey or brandy with cup and spoon, a hypodermic syringe, pure ether and liquor strychniæ. A pin cushion with safety pins, an ample supply of water with basins, soap, nail brush, &c., a china basin for sublimate solution, three new tin basins, a bucket and pitcher of hot water, a small tub and an empty bucket, two kettles of boiling water ready on range. The cold water must have been previously boiled and kept in covered vessels; trays or large meat dishes to be used for holding solution in which instruments are to be placed, a tin tray nineteen inches long, twelve wide and three deep, may be made. Six hot water bottles for the patient's bed; three clean cotton or linen aprons for operator and assistants; one or two small tables for basins and instruments, tables on which to operate, either two, one of which is not less than four feet long and about two feet wide, or an operating table may be made twenty-two inches wide, thirty to thirty-two inches high and six feet long. One empty

bottle for aspirator, clean towels, sheets and blankets, waterproof to place on table, waterproof cover with circular opening to cover abdomen, made to adhere with emplastrum resinæ; it is not always necessary to use the abdominal waterproof, but if the tumour is a large cystic one, or if we afterwards require to wash out the abdomen it is of great service as it keeps the patient's body clean and dry; it should measure about two to two and-a-half yards square, the oval aperture should be nine by six inches and its upper edge should be about fifteen inches from the upper edge of the waterproof. I have here modified Dr. Goodell's excellent suggestions in accordance with my own experience.

I will not occupy space by describing the various varieties of common instruments used. A tendency to unduly elevate the importance of the particular instrument employed is too evident in more than one gynæcological treatise. Much less depends on the handle of the scalpel than on the method of handling it. But one may be allowed to express a preference for metal handles to all instruments used for abdominal surgery, as they can be rendered aseptic with absolute certainty. The ovariotomy trocar in common use is much too large and unwieldy, a trocar made on my suggestion which embodies the principles of the tapping trocar of Wells with the addition of forceps catches as suggested by Tait, but differing in detail from both, has been found very useful, it has been found of distinct advantage in operating on multiple or multilocular cystomata, and is so simple in construction that it cannot go wrong. It is unnecessary to describe its mechanism or to say more of its action than that, after puncturing the cyst, the cyst wall is caught on both sides by the blades of the forceps and the sharp trocar withdrawn. When it is necessary to puncture another loculus, one side of the forceps is loosened, the trocar inserted, and the forceps again fixed; this may be done from side to side without ever losing hold of the cyst wall. It is much less likely to tear a fragile wall than the clips of Well's large trocar, and much less force is used than with Tait's lancet

trocar, which soon becomes blunt. Mr. Tait has latterly adopted a blunt-pointed curved tube without forceps attached.

Preliminary tapping of a cyst is now generally condemned. It has been conclusively shown that adhesive peritonitis is often apt to follow this procedure. In a few exceptional instances it may be permissible—for example, in very large cysts which have taken on rapid growth, or have been neglected until of such a size that the patient's breathing has become seriously embarrassed. If one is prepared to operate radically within twenty-four hours, at longest, after partially emptying the cyst, such cases will be best treated by aseptic aspiration.

The Anæsthetic.—In the case of a nervous woman it is advisable to have the anæsthetic given either in a separate room or before placing her on the table. Under no circumstances should there be a display of instruments, or other, too evident, indications of the operation. The choice of the anæsthetic should for the most part be left to the anæsthetist. In the Chelsea Hospital for Women we usually give nitrous oxide gas, followed by pure ether. Chloroform, or a mixture of chloroform and ether, is used by many administrators with equally good effect.

TECHNIQUE OF THE OPERATION.—In the following description I shall omit reference to many complications which may possibly arise, as I shall revert to these later. The patient must be profoundly anæsthetised before the skin incision is made, otherwise one may find that she becomes partially conscious, and that rigidity of the recti temporarily prevents further progress.

The operator and his assistants (two in number) one assistant and the anæsthetist are, however, all that is necessary, should very carefully wash their hands and arms, have their shirt sleeves rolled up to the shoulders, dip their hands and arms in an antiseptic solution, either carbolic solution 1.30, or perchloride of mercury solution 1 in 1,000; wear clean aprons of waterproof or boiled linen, long enough to reach from under the chin to the bottom of the trousers; and

further should recollect that from time to time during the operation the hands and arms require to be cleansed. Not only should the surgeon and his assistants be particular, but the nurses should be equally so, otherwise unexplained septic conditions may not infrequently be met with. The use of carbolic acid spray during laparotomy is now obsolete. In fact, certain eminently successful operators dispense with all antiseptics, but they observe great aseptic care by frequently washing in clean water during their operations. For past masters in gynæcology this may be allowed. No beginner can afford to omit any precaution tending to the safe recovery of his patients. Just before commencing, let the surgeon satisfy himself that all instruments he is likely to require are placed in the trays containing the 1 in 20 carbolic solution; let him see the sponges and forci-pressure forceps counted, and instruct the nurse that no sponge is to be torn, or used a second time unless after being thoroughly cleansed.

The Preliminary Incision.—The surgeon stands on the right side of the patient, his chief assistant on the left. He selects the midline for incision, and beginning about an inch below the umbilicus carries it straight down for three or three and a-half inches towards the symphysis pubis. The incision should be made with the blade held horizontally, and not in a niggling dissecting-room style with the point. The length of the incision will, of course, vary with the size of the tumour and with respect to its probable nature. I have removed an ovarian cyst the size of a large orange through an abdominal incision measuring only an inch and a-half, but the contents were very thin and the adhesions insignificant. On the other hand one may discover that the adhesions are so extensive, or that in addition to the cystic tumour, some complication may exist, which renders it necessary to freely extend the abdominal wound; this, of course, is done after we have felt the size of the tumour, its relations, &c., as it lies within the abdomen.

The first sweep of the knife should bring us down through the skin, subcutaneous fascia, and fat, on the linea alba.

Meantime the assistant may secure any vessels in the incision which bleed, despite gentle pressure with the sponge, by catch forceps. Instead of now proceeding with the dissecting forceps and scalpel, we may follow the procedure adopted by several expert and rapid operators. The operator now fixes one catch forceps to his side of the incision, lifting up the rectus sheath; the assistant lifts up the left side of the sheath, the linea alba is usually easily recognised. The surgeon, holding his forceps in the left hand, turns the back of his scalpel downwards, pierces the midline and with the knife held parallel with the surface, horizontally and edge upwards, cuts in correspondence with the length of the skin incision. Most writers on ovariectomy dwell on the importance of incising the midline of fibrous tissue, and describe the objections to incising the fibres of the rectus. Except that one may have somewhat obscuring bleeding from the small arteries in the muscle, and may, in fat patients, still further increase the depth of the abdominal wound, there is little weight to be attached to the injunction. In very thin patients it may be an advantage to go to the side of the midline, as if the muscle is cleanly cut, not hacked at or torn, it heals quite as well as the median-line incision, and, as a matter of fact, will leave a stronger abdominal wall. One must diligently arrest any troublesome bleeding points in the muscle before opening the peritoneum. Often the application of a hot marine sponge or firm pressure from one of the antiseptic cotton sponges will obviate the use of pressure forceps. The subperitoneal tissues are now reached; this layer may be so thin that it is hardly noticeable, or, on the other hand, be exceedingly thick; not infrequently it has been a stumbling block to young operators. A little experience will enable them to recognise even an abdominal peritoneum as a structure which can seldom be mistaken for anything else. The amount of fat varies greatly—there may be as much as three or four inches, or more to cut through. The internal edges of the layer of subcutaneous fat, or of the subperitoneal layer, if very thick and inclined to bulge towards the midline,

may be sliced off. This saves time eventually, and is less troublesome than the employment of retractors. After division of the subperitoneal structures, the operator and his assistant now remove their respective catch forceps from these tissues, which they had seized in the same way as they had the muscular layer. The glistening peritoneum is now reached. When the peritoneum is inflamed, thickened, and closely adherent to the cyst wall, the operator may find it no easy matter to lift it up as he has done the external coverings. But it is in such cases that this method of fixing by catch forceps, lifting up the tissue and dividing with the back of the knife inwards, is of most advantage. If the peritoneum is adherent to the cyst wall at one point, it will probably be free at another higher or lower, and once we have made an incision large enough to admit the forefinger, we can usually separate a sufficient area to enable us to ascertain the exact extent of the adhesions. Some surgeons, using dissecting forceps and scalpel, scrape their way through to the peritoneum, after they have pinched up a small portion of it, they then insert a Stanley's director, and using a probe-pointed bistoury complete the peritoneal division. The use of the director is less valuable than the insertion of one or two fingers below the peritoneum as a guide, and then either a probe-pointed bistoury, scissors, or a scalpel held as before, and above the fingers, may be used. At this stage it is usually possible to remove all forceps compressing vessels in the wall; this should always be done if possible, as they will be in the way later; the surgeon can re-apply one or two if the vessels still ooze, or by torsion arrest the hæmorrhage. It is the duty of the assistant to cover the opened abdomen with a clean sponge during the removal of forceps. Some recent writers draw attention to the appearance of the urachus during the opening of the abdomen, and to the possibility of the bladder being wounded from its being spread over the lower part of the tumour. Dismiss the urachus as an anatomical detail; do not cut too low, and the chances of seeing the bladder are remote. The only possibilities of difficulty in

this respect are due to inattention in emptying the bladder before section, and to adhesions between the bladder and the cyst wall. It is a very rare occurrence to see the bladder at this stage, still rarer to cut it; it is much more likely to be torn during the separation of adhesions, and this is indeed also very rare.

The operator has now reached the cyst; he must not expect always to find the clear pearly-blue, or the shiny-white, surface which is attributed to the ovarian cyst as its distinctive colour. In typical simple cases it is often like this, but it may be greenish, or greenish grey, or brownish or yellowish, or again, white with patches of green, or yellow, or reddish brown, or appear almost transparent. The colour of the cyst depends on its contents, and on the existence or non-existence of previous inflammation of the cyst wall and surrounding parts. Before tapping the cyst, in fact before the peritoneal cavity is well entered, there may be an escape of ascitic fluid. This is often associated with malignant tumours, but by no means necessarily so; it may cause alarm from the idea that the bladder has been wounded, or that the cyst has been accidentally cut. Whichever of these undesirable accidents has occurred, the practice to follow is the ordinary one of enlarging the incision in the peritoneum sufficiently to see what has been done, and to be able to feel accurately how the parts are placed. The left hand is now partially, or wholly, introduced within the abdomen, and the exact condition determined. The tumour may not be a cystic ovarian growth, but a fibroid-cyst of the uterus, a solid ovarian tumour, or a uterine fibroid, or a pregnant uterus, or possibly no ovarian or other tumour may be felt. If free blood or blood clots should be discovered deep in the abdomen, more especially if mostly at one side and associated with a swelling of indefinite shape, there is probably a ruptured extra-uterine gestation. If a large quantity of mucoid material is found free in the abdomen, the explanation is, that a cyst, probably colloidal, has ruptured.

Adhesions.—Before emptying the cyst it is well to accu-

rately determine the adhesions. Anterior adhesions, peritoneal and omental, should so far as practicable be separated before tapping the cyst. Lateral adhesions are often due to enlarged appendices epiploicæ, or to processes of tissue from the tubes or broad ligaments. Their detachment is not generally difficult. If possible the hand should be swept round the cyst and all slight adhesions thus separated. Difficult adhesions should be dealt with after emptying the cyst. No force or roughness must be used in freeing the unemptied cyst. Ovariectomy is either easy or difficult, in most cases, in consequence of adhesions being absent or important. After the cyst has been emptied and partially withdrawn, intestinal adhesions wholly unlooked for may have to be dealt with. Intestinal adhesions may exist anywhere—in front, laterally, or posterior to the cyst; strong firm adhesions to the sides of the tumour and posterior to it are most troublesome. Great delicacy of touch and gentleness is demanded in their separation; the coil of intestine should always be seen, it should be pushed away from the cyst wall rather than the cyst wall pulled from it; the cyst wall is a thicker and firmer structure than the bowel. Should the bowel have its walls thickened by inflammatory processes it may be most difficult to find a line of cleavage, and not infrequently the serous covering of the bowel is stripped off. Small soft warm sponges or the fingers are the only agents generally used in separation. If impossible to separate, a small portion of the cyst wall must be cut off by scissors and left on the surface of the bowel. Happily this is seldom required. Omental adhesions may be very firm but are easily dealt with; after first securing the adhesions between ligatures, or, if there are no vessels of importance, between forceps, the adhesions are cut across with scissors. The omentum may be vascular and require to be transfixed with a piece of fine silk, or chromicised catgut, carried in a handled blunt needle, and tied in several places. The appendix vermiformis may be very firmly adherent to the cyst wall; this, however, is less usual than in conditions arising

from tubal disease ; if so, it should be doubly ligatured with silk or chromicised gut and cut across ; it is also advisable to invert the mucous edges and suture with fine ligature, with a view of preventing its forming future adhesions to the bowel or elsewhere. The utmost care must be observed in suturing the torn intestine, but as this implies rather a complicated than an uncomplicated operation reference will be made to it again.



Tapping the Cyst.—Having ascertained that the tumour is neither uterine nor a solid ovarian growth, and having freed it from all anterior and lateral adhesions of slight nature, the operator thrusts the trocar into the most prominent part of the cyst ; the fluid contents escape, through the rubber tubing attached to the cannula, into the bucket placed conveniently at the right side of the table. As the cyst empties care must be taken, if we use the trocar, that it is withdrawn into the cannula. But the fluid may cease to flow although it is clear that it is not nearly evacuated. The sharp trocar is again protruded within the cyst. One side of the forceps is loosened and the trocar inserted into the most prominent and tense projection ; this is a matter for touch, not sight. It may be now needful to raise the

tumour out of the abdomen by gentle steady traction; the large cyst forceps of Nelaton, or of Sydney Jones, is very useful for this purpose, as the size of the blades and the teeth or spikes they have, give an excellent hold on the wall. Wells's large forceps will answer the purpose if the surgeon does not possess the others. Frequently the operator can accomplish the dislodgment of the cyst by introducing two or three fingers of the left hand behind the upper portion of the cyst and lifting it upwards and forwards.

Cysts may be composed of several loculi greatly varying in their contents. The contents may be principally fluid, but some hard semi-solid adenomatous parts may occasion delay. The trocar is then of no use. It is in such cases that experience is of value. Should the surgeon invariably follow the instructions given in some books, viz., to fix the sides of the cyst opening by forceps, then enlarge the opening sufficiently to admit of the introduction of the hand, he may unfortunately rupture a small suppurating cyst. There can be no objection to introducing the hand carefully within the cyst and ascertaining, as far as possible, what prevents its being lifted out of the abdomen. If one is in doubt it will be better to enlarge the abdominal incision upwards, and also slightly downwards, at the same time guarding against intestinal protrusion by placing large sponges below the abdominal wall and over the intestine before extending the incision. The semi-solid adenomata are not always easily broken up, and it is often necessary eventually to elongate the wound. After the hand has been employed within the cyst it should be carefully recleansed and dipped in perchloride solution. Should there be no strong posterior adhesions it will often be found that free incision of the cyst wall, by means of the scalpel, sponges being placed so as to prevent its fluid contents entering the abdominal cavity, will facilitate its removal. If firm adhesions exist between the cyst wall and the abdominal contents, the cyst must be emptied before they can be safely dealt with.

Securing the Pedicle.—The pedicle of an ovarian cyst;

consists of the ovarian ligament and part of the broad ligament, in which lie the ovarian artery and veins, the ovarian nerves and some lymphatics, and, frequently, of the fallopian tube; the round ligament may or may not enter into the pedicle, when it does it is usually as the result of inflammatory matting of the tissues. If the tumour is very large and heavy, from being composed in part of semi-solid contents, it is permissible to secure the pedicle as near to the cyst as possible between the blades of a large strong-bladed angled pressure forceps, making sure that the vessels are contained in the grip of the forceps, and then detach the tumour by scissors or scalpel. But if the tumour is not very heavy and the pedicle of fair length, it is better to ligature it before detaching the cyst. The operator visually examines the pedicle; should it be twisted he untwists it. If there seem to be two pedicles (which may actually happen, as in the rare cases of double cysts which have become fused), it is better to err on the safe side and secure both. A very thick adhesion may consist of a portion of broad ligament, and contain a vessel or vessels which would give rise to dangerous hæmorrhage. The methods of tying a pedicle may vary in exact detail, but all are based on the principle of transfixion and tying by interlocked ligatures, two or more in number. The broad ligament is transfixed at a part free from veins by a pedicle needle carrying good stout chinese silk doubled; flat plaited silk is stronger than round silk. It is a mistake to use too thick silk—No. 3 is quite strong enough; No. 4 and even No. 6 is exceptionally used for tying thick pedicles. The smallest size which will afford security is always to be preferred. The needle is withdrawn, the loop is drawn towards the left side of the patient by the fingers, or very gently by catch forceps—if forceps are used care must be observed lest the silk is frayed by the blades—the loop is cut, the operator ascertains that the threads are running freely, that is, that each end corresponds to the end of the same lateral half, and the threads are interlocked. The outer half in which lie the ovarian artery, veins, lymphatics, nerve and a portion of

broad ligament is preferably tied first, then the under half containing the tube and a portion of broad ligament is tied tightly. We must avoid strain in tying the pedicle; it is very troublesome to have the silk breaking after the operation has proceeded thus far. Any secure knot will do—a reef knot or double reef is generally used. It is sometimes considered safer in a thickish fleshy pedicle to still further compress the pedicle by bringing the inner thread right round it; if this is done care must be observed that this thread lies in the same groove as the others. A very thin pedicle may be well secured by the Staffordshire knot, made by passing one of the free ends of the ligature through the loop which has been brought over the pedicle, and drawing this tight, then tying the two free ends securely. Broad fleshy pedicles may require a chain ligature, that is, double or treble transfixion. This is effected by passing the outer ligature, *i.e.*, the ligature controlling the artery first described, then dividing the loop, interlocking the threads, tying the ends of the outer thread securely; while so doing the ends of the other half, *i.e.*, thread two, are fixed by catch forceps; the pedicle needle, bearing a single thread, is again passed through the broad ligament, the single thread is withdrawn from the eye of the needle, the untied distal end of the second half of the first suture (thread two), is now passed through the eye of the needle, which is now withdrawn; before the second ligature is drawn through it is locked, *i.e.*, twisted with the single half thread; then the two ends of the second half are tied together on the side from which the ligature first entered, and the two ends of the third ligature, *i.e.*, the single ligature, are tied round the inner side of the pedicle. It may be necessary if the pedicle is very broad to extend the chain still further, using the same method. On the one hand it is desirable to avoid too thick a pedicle; on the other we must not separate portions of a pedicle and ligature them separately, unless we are well assured that the parts containing vessels are thoroughly well secured by ligatures which cannot under any reasonable strain slip. Before dividing the

cyst, or, should it have been removed, before cutting off the piece of cyst wall or pedicle left on the distal side of the ligature, the edges of the pedicle are held lightly but securely in catch forceps one on each side; the pedicle is now cut across about half an inch above the ligatures. If there are any large ends of vessels prominent it is making matters still safer to pass a catgut ligature below the vessels, transfixing them across the end of the pedicle. Further, it is an additional and valuable safeguard, not only against hæmorrhage but as a preventive of adhesion of the pedicle to intestine or other neighbouring parts, to fold in the edges and suture the raised mucous surface of the tube. We have recently done this several times, and feel satisfied that the short additional time employed in running a continual catgut suture through the raised end is well spent. It is very important that the assistant should pay great attention so that no strain is put on the pedicle during the time that the surgeon is securing it. After having tied it, the pedicle is inspected, ascertained to be secure, and dropped into the abdomen; either a forceps or one length of the suture may be attached as a guide to finding it easily should any hæmorrhage occur, the thread is best but it must be long enough to come within easy reach outside the abdomen, and have its end caught in forceps, otherwise it may be forgotten. The cavity of the abdomen must be cleaned. The surgeon now having again rinsed his hands, explores the other side. If the opposite ovary is healthy it should be left alone; even if slightly enlarged it is unwise to touch it; healthy ovaries vary considerably in size and even in consistence. One woman I operated on for left-sided multilocular ovarian tumour, in the Chelsea Hospital on October 1, 1891, was found to have the right tube and ovary adherent to the surrounding parts, but the tube and ovary seemed healthy. The adhesions on the right side were separated, the ovarian cyst on the left side was removed, and the abdomen closed. She left the hospital on October 26, and returned on April 23, 1892, when she was ascertained to be three months pregnant. She was safely and easily

delivered at term. Should there be clear indication of tubal or ovarian disease of the side opposite the cyst the diseased organs should be removed. If the operator is not confident that he can quickly and safely remove the second ovary, which is sometimes much more difficult to accomplish than the ovariectomy proper, his patient's interests should rank before his personal desire to justify his surgical skill. If the second ovary is diseased it will probably be cystic and not very difficult to bring to the surface, but when there is great matting together of the parts, to leave matters alone will be found the best policy for the tyro. The question of flushing the peritoneum is not very often raised in ovariectomy. If colloidal material or blood, or more especially pus, has escaped into the abdomen, the cavity should be thoroughly flushed. Free hæmorrhage from torn adhesions is also restrained better by flushing with hot water than by any other means short of separate ligation of each small vessel, which is impossible. The temperature of the water used should be 110° ; blood heat, as advised by some, has no hæmostatic action. Either a Leiter's glass douche with tubing and bent glass nozzle attached, or an ordinary can with a pointed beak, and capable of holding about twenty to thirty pints of fluid, may be used. In most ordinary cases flushing is unnecessary. Sponging in Douglas's pouch, and very gently but generally in the abdominal cavity, especially in the region of the pedicle, is usually all that is required. The edges of the wound are kept approximated by the assistant's hands during these procedures. If the abdominal sutures are introduced before the toilet of the peritoneum is made, the room for exploration and the facility for flushing will be less.

(To be continued.)

CLINICAL CASES.

Abridged Notes of a Porro-Cæsarean Operation.

BY E. HOLLAND, M.D., F.R.C.S.

E. K., aged 37, was sent into the Hospital for Women, Soho Square, by Dr. Oliver who had diagnosed the critical complication of pregnancy with large multinodular fibro-myomata. The patient was a *primipara*, and the date of conception was ascertainable. Under an anæsthetic the pelvis was found filled with a mass as large as the foetal head at term, and the posterior lip of the os uteri could be just touched with the tip of the finger above the pubes; the pelvic portion of the tumour could not be raised, and there was not room to displace it; and at one point it appeared to be undergoing cystic degeneration, a fact verified after removal. Anteriorly there was a small space of the uterus free from nodular growth, and it was considered that the smaller the child, consistent with viability, the better the chance for the mother, and the inevitable operation was deferred till seven months and a-half had been reached. At this time the abdomen was very largely distended, but otherwise, the patient's condition was quite satisfactory.

Operation on January 27, 1893. — A long incision was made, and the peritoneum divided with scissors; the uterus was opened with blunt-pointed scissors and with the finger; the size of the placenta was ascertained; an incision about five inches long was then made, and the finger used as a director to avoid the placenta, which was close on the left of the incision; there was no hæmorrhage, although the uterine wall was markedly fibroid in character. The child was ex-

tracted quickly, and the placenta left attached. An attempt was then made to express the tumour but it failed, and the abdominal incision was now extended about three inches upwards, when the tumour was withdrawn from the abdomen ; the intra-pelvic portion was shortly and firmly pedunculated. On gathering in the broad ligaments the tension proved a barrier to further progress, but this was easily and satisfactorily relieved by incising the ligaments horizontally on each side of the uterus, and then stripping them down. The stump was reduced to a small one, and the wound closed in the usual way. The pedicle was well dried, then rubbed over with dried persulphate of iron. The progress of the case was quite satisfactory ; there was a little temperature on the fourth day coincident with lacteal secretion ; the stump was snipped off on the tenth day ; and the wound was healed in a month ; thus breaking all our previous records in Soho Hospital by about two weeks. The child was feeble and survived delivery four hours. The patient was discharged strong and well on March 3, 1893. The tumour, after draining, weighed ten pounds ; and cystic degeneration was observed in several isolated portions.

REVIEWS.

AN AMERICAN TEXT-BOOK OF GYNÆCOLOGY, Medical and Surgical for Practitioners and Students. By Drs. HENRY T. BYFORD, J. M. BALDY, ED. B. CRAGIN, J. H. ETHERIDGE, WILLIAM GOODELL, HOWARD KELLY, FLORIAN KRUG, E. E. MONTGOMERY, WILLIAM PRYOR, GEORGE M. TUTTLE. Edited by J. M. BALDY, M.D. Royal 8vo, cloth; pp. 687; 360 Illustrations in the Text, and 37 Coloured and Half-tone Plates. London: F. J. Rebman. Price 34s.

There need now be no ignorance of advanced gynæcology if text-books will teach the subject. Time was, and that not long ago, when our practice was far ahead of our recognised text-books on the specialty. Buried in the transactions of societies, or in magazines, journals, or monographs—all more or less ephemeral, or difficult of access—were many of the best and most recent practical recommendations and scientific observations of the most active workers. France took the lead in supplying the much-felt want of an up-to-date text book, and now she is closely followed by our enterprising cousins.

This very handsome volume is the joint production of ten gynæcologists, most of whom are well known by repute on this side of the Atlantic. The book is mainly clinical in its intention, and will be found to be most practical in character. Illustrations have been used most freely to demonstrate and explain many of the most important anatomical and surgical matters referred to in the text, which is thus much abbreviated and rendered very clear. Some of the coloured plates excel in artistic beauty anything we have seen in a gynæcological text-book. Several of the illustrations

are familiar, yet some of these are not quite accurately referred to their original sources. We confess to a feeling somewhat akin to disappointment that each author is not credited with his individual work ; for after all there is "a divinity that doth hedge in kings," be they European monarchs or republican gynæcologists ; and the sign manual of some of the gifted writers, who have followed the motto of their country, "*E pluribus unum*," and from many able minds have given us one, on the whole, harmonious volume, would, in our estimation, not have lessened the authority of these chapters. The combined work is, however, remarkably free from inequalities, and much credit is due to the editor for having overcome the recognised difficulty "*tot homines quot sententiæ*." The volume, large as it is, is singularly void of "padding." The subjects discussed have been treated under the following heads : Examination of the Female Pelvic Organs ; The Technique of Gynæcological Operations ; Menstruation and its Anomalies ; Sterility ; Anomalies of the Female Generative Organs ; Genital Tuberculosis ; Diseases of the Vulva and Vagina ; Inflammatory Diseases of the Uterus ; Laceration of the Soft Parts ; Genital Fistulæ ; Distortions and Malpositions ; Malignant Diseases of the Female Genitalia ; Uterine Neoplasms ; Pelvic Inflammations ; Ectopic Gestation ; Diseases of the Ovaries and Tubes ; Diseases of the Urethra, Bladder and Ureters ; After-Treatment in Gynæcological Operations.

We cannot pretend to give an analytical account of the various distinguishing features of this exhaustive work, but merely mention a few which have specially struck us after a careful perusal of the whole.

The chapter on "Menstruation and its Anomalies" is very practical and reliable. For descriptive purposes the old classification of neuralgic, congestive, mechanical, ovarian, and membranous dysmenorrhœa is given. It is, however, clear that it is not because these varieties are accepted as truly distinct, but as convenient, that we have them so described. To mention "the fly in the ointment of the apothecary," we would beg that such words as *decongest* and *uncontrollability*

should be served up somewhat differently for our old-world palates in a new edition. Nor are we quite ready to accept a sponge tent, however prepared, as "an agent superior to iodoform gauze" for an intra-uterine tampon. We also feel that if we had had some bibliography given at the end of each chapter it would have proved of value to advanced students.

In the chapter treating on "Sterility" we are pleased to find "It is well never to lose sight of the fact that the cause may be resident in the male; about one case in ten of infecundity in marriages has its origin in the male." At page 128 we are informed, "Flexions demand the use of the intra-uterine stem pessary." At page 284 they do not get it—"There are still those in America who teach and practise the use of *stem pessaries*." After showing that, not only is the success attending this plan of treatment most tardy, taking six months' treatment to effect what may happen after curettage in "as many days," but that the method "produces pus, frequently causes inflammation in the tubes and peritoneum, does not drain and does not cure endometritis; we are told "the sole beneficial feature in this method lies in the application of iodine and carbolic acid." "It but remains for us to say that the treatment of antelexion by the stem pessary is not based upon accurate ideas of the lesion and the function of the endometrium." We, not knowing "who is which," beg to subscribe to the second thoughts as best.

The chapter on "Anomalies of the Female Generative Organs" is an excellent summary of the subject. "Extra" ovaries are referred to, and Keppler, Kochs, Lumniczer, and Winckel cited. The fact is hardly admitted generally, and here again detailed references would have been valuable.

"Genital Tuberculosis" is an admirable chapter. The statistics of Dr. Whitbridge Williams, who has done such valuable work on the subject, is referred to, showing that the condition has been found in from 1 to 8½ per cent. of general autopsies on phthisical women, and in one of every twelve abdominal sections for inflammatory disease. The tone of the chapter is highly scientific and eminently practical. It must be carefully read and re-read by all interested in the subject.

The chapter following, on "Diseases of the Vulva and Vagina" is enriched by several original and beautiful coloured plates, and the illustrations, both clinical and pathological, are worthy of the highest praise.

The chapter on "Endometritis" also contains some highly illustrative figures. Although many appear in other works, we have seldom seen them so clear and distinct. Cornil's, and Von Jaksch and Cagney's drawings, are specially worthy of notice. "In the light of its causation, of its pathology, even of its results, acute tubal and peritoneal inflammations of *uterine* origin (the italics are ours) are to be treated by curettage and gauze packing alone as the primary operative procedure. One of three methods must be adopted with these cases; either poultices and hot douches, curettement and treatment of the uterus as any septic cavity, or a primary cœliotomy. The first is the method of the midwife, and merely allows the infection to work its will in the pelvis. The second is surgical in every sense of the word; while to adopt the third in every case stamps a man as blind to reason and the work of other men, and as willing to open a fellow being's abdomen rashly and unnecessarily." It would be well if electrical enthusiasts would reply to the queries on page 234. To those who are unbiassed either way we quote, referring be it understood to the electrical treatment of endometritis. "A few years back, when gynæcology consisted merely of the dictum of one or two world-famed men, the electrical treatment might have become established. To-day, in the critical light of modern research and the generous distribution of knowledge, it exists, not because of true merit but through the timidity of suffering womankind, who grasp at the hands offering relief 'without an operation.'" "The majority of cervical lacerations are cured by nature." When and how to cure the minority is well described. We have already quoted from the chapter on "Distortions and Malpositions," when we showed the "other side" of the stem pessary, but we must not pass it by without expressing our regret that we are unable to accept the author's views on

anteflexion considered pathologically, and are inclined to think that pp. 278 to 282 require much revision. The "estimated value of the various procedures for the relief of retro-positions of the uterus" does not occupy a page (317); yet it will be valuable reading to some operators who decline to accept any recommendation until it has found a "place in the text-books." We are, with certain reservations, so thoroughly in accord with the writer regarding the paragraphs on operative measures that, from the reviewer's standpoint, it is a welcome variety to notice something we disagree on, and that, after all, is merely a little matter of detail although of practical value. In describing Stoltz's anterior colporrhaphy, p. 337, the writer advises that the denudation should be made before the introduction of the thread. It is much better to mark out the intended denudation, introduce the thread and then denude the mucous membrane. By this means there is no hæmorrhage, from which cause the operation has not infrequently been rendered imperfect.

"Uterine Neoplasms" is thoroughly recent in its teaching. "The electrical treatment of fibroids is so technical, and requires such an assortment of instruments and batteries that information on the manner of using it will be left to special works on the subject." "As to the results, the latest figures are given by Vineberg, gathered from the works of Keith, Englemann, Gautier, and others who are particularly skilled in the matter. There were 372 cases; nine cured, five died. This is 2·4 per cent. cured and 1·3 per cent. died: too high a ratio of mortality, and too low a ratio of cures. The percentage of cures about represents the possible percentage of errors in diagnosis."

In describing hysterectomy, "total abdominal hysterectomy for fibroid" is the outstanding feature of interest.

"The intra-peritoneal methods of Zweifel and Schröder are no longer necessary. The great leap has been from the extra-peritoneal operation to complete extirpation. And at the same time we leave a partial operation, with a tedious convalescence, adhesions about the stump, and possibly hernia;

for a complete operation with a mortality less than 8 per cent. in the worst kind of cases, and no disagreeable sequelæ. In *selected* cases, which have escaped electricity and other intra-uterine treatment, the mortality should be not more than 3 per cent." Now, we venture to think this somewhat optimistic. Say what we will, operate how we may, total extirpation is a highly dangerous operation, and as yet it has been done by only a limited number of operators, and those probably the most expert and experienced, on a limited number of cases, so that we cannot compare the immediate mortality with the older methods. We should also like to have fuller statistics of the actual operations that have been done in America and on the Continent. The description of the method is the best we have read, and is clearly written by one who knows practically what he describes.

The subject of pelvic inflammation, following on the lines made familiar to us by Cullingworth, begins with the expressed intention of including "all those pelvic inflammatory diseases which involve the Fallopian tubes, the ovaries, the pelvic peritoneum, and the pelvic cellular tissue; all those conditions described by the terms salpingitis, pyosalpinx, ovarian abscess, perimetritis, parametritis, peri-uterine phlegmon, pelvic abscess, pelvic cellulitis, pelvic peritonitis. These conditions are so intimately associated, and so constantly complicate each other, that it becomes impossible to treat of one without taking into consideration several of the others. It is to our purpose, then, to deal with this subject as though it were a single disease---as in fact and in truth it is---and of each of the resultant factors, as simply the same disease attacking in its progress the different anatomical portions of the female pelvis . . . the lesion differing in accordance with the structure attacked, with the severity of the attack, and with the stage at which the progress of the disease has been stayed." This chapter must be carefully studied; it is the product of much work and matured reflection.

"The Ectopic Gestation" chapter, including as it does, the work of Tait, of Berry Hart, of Webster, of Bland Sutton, of

Tuttle and Craigin, &c., is authoritative and highly instructive.

"The Diseases of the Ovaries and Tubes" begins with a brief but most readable description of the anatomy and physiology of the ovary. We then have malformations of the ovary and tube; displacements; congestion; oöphoritis; chronic ovaritis; ovarian neoplasms; cysts of the hydatid of Morgagni; microcysts of the broad ligament; simple or follicular cysts; cyst of the corpus luteum; tubo-ovarian cysts; large cysts; proliferating cystomata; dermoids; solid tumour of the ovary; carcinoma; and parovarian cysts described. Then follow questions of etiology, of treatment, and of usual and unusual conditions, &c. This chapter contains almost all one need wish to know on the subject, and the information is not only well, but tersely put.

The concluding chapters on urethral, bladder and ureteral conditions, and on the after treatment of operation cases are very interesting, and complete the work. The most novel feature of these is the importance given to diagnosis of diseases of the ureters; with which all readers of the *American Journal of Obstetrics* are already acquainted as distinctively pertinent to recent gynæcological work in America.

We feel that we have conveyed only a superficial account of this very attractive work, which is most highly creditable to all concerned, the editor, the authors and the publisher; and will undoubtedly prove of great service to practitioners and students. One suggestion only would we venture to add, in conclusion. In the next edition let us have two handy volumes instead of one handsome and heavy one.

L. N.

TRAITÉ PRATIQUE DE GYNÉCOLOGIE. Par le Dr. A. AUVARD, Accoucheur des Hopitaux de Paris. Deuxième Edition, Revue et Augmentée. Avec 655 Figures dans le Texte, et 12 Planches en couleur Hors Texte. Paris: Octave Doin; London: Baillière, Tindall, and Cox, 1894.

The appearance of a second edition of M. Auvard's treatise on gynæcology, in so comparatively short a time

since the publication of the first edition, is proof sufficient, if any were needed, that the book has been favourably received.

In the second edition we have a larger, a handsomer, and an improved book. The author has not failed to supply some of the desiderata we indicated as lacking, in our review of the first edition; and has so modified other matters that we warmly congratulate him on the tact and readiness which he has shown to adapt his writings to the most exacting requirements.

L. N.

THE PHYSICIAN'S WIFE. By Mrs. ELLEN M. FIREBAUGH. Illustrated with 44 Photo Engravings of sketches from Life. London: Rebman, price 6s. 6d.

This is a cleverly written, chatty and sensible production. The apology to the reader is alone worth more than many books written with a purpose. For young ladies who have just married a physician, and for young ladies who entertain the thought of so doing, there are many "wrinkles" which will prove helpful. We are not quite sure that it might not prove useful to a good many ladies who have had considerable experience of matrimony, and, indeed, there are a few pages throughout the book which might be profitably perused by the physicians themselves. We would counsel our readers who have wives to get the book for them; and those who have not, to get it, so that they may, at least theoretically, know something of what they have missed.

L. N.

CONGENITAL AFFECTIONS OF THE HEART. By GEORGE CARPENTER, M.D., M.R.C.P., Senior Physician to Out-Patients at the Evelina Hospital for Sick Children. London: John Bale and Sons, price 3s 6d.

This little book of 100 pages is designed for the use of students and practitioners, and embodies the demonstrations on the subject given by the author at the Evelina Hospital. The first few pages are devoted to a clear and succinct account of the development of the heart and great blood vessels. The many different varieties of congenital affections

are then described, along with the manner in which they arise, and the structural alterations which are consequent upon them. The paragraphs in which these matters are discussed are for the most part admirably written, but the arrangement followed by the author seems to be founded upon no definite plan, and there is no obvious attempt to distinguish clearly between affections due to abnormalities of development and those due to intra-uterine disease. Students would obtain a much better grip of a somewhat difficult subject by the use of some scheme of classification. The first place is very properly given to affections of the pulmonary artery and its orifice, and the author quotes in full detail a case of atresia of the pulmonary artery observed by himself. The clinical and pathological details of this case are given with great clearness, and are illustrated by drawings of the structural changes observed in the lungs and kidneys. It is disappointing that the author has so little to say about the ætiology of these affections, but Dr. Carpenter has no doubt done wisely in resisting the temptation to speculate where facts are wanting. Among the symptoms of congenital heart affections, cyanosis receives very full consideration, and Dr. Carpenter has much that is interesting and important to say about this condition. The other important symptoms touched upon are dyspnœa, cardiac pain, syncope, gastro-intestinal troubles and head symptoms. In many cases, according to the author, physical signs are absent, and even when present they are not of great value as a means of diagnosing the particular variety of affection which may be present. "From what has been said it will be seen that conclusions drawn from the point of maximum intensity and the directions taken by cardiac bruits in congenital affections of that organ are very unreliable in themselves, and that great stress must not be laid upon them."

In the absence of an autopsy the author does not attempt a particular diagnosis, but the general clinical features are well illustrated.

A short discussion of the general principles of treatment

is followed by the notes of a series of 22 cases, and the student will not fail to derive great assistance from a careful perusal of these well described cases.

We think that Dr. Carpenter's monograph would gain much by a more definite plan of arrangement, by a suitable division into chapters, and by the addition of an index. The book is very neatly handled by the printers, and the proof-correcting errors are so few and unimportant as to escape comment.

T. W. E.

A PRACTICAL HAND-BOOK OF MIDWIFERY. By FRANCIS W. NICOL HAULTAIN, M.D., F.R.C.P.E. London, Scientific Press, Limd., 1894. Price 6s. 6d.

Speaking generally, a synopsis is, for purposes of learning, a short cut to a smattering of the subject, and of especial value to the man who wishes to pass an examination with a minimum of knowledge. The catalogue style is contrary to all true principles of learning; the resulting knowledge is shallow, disconnected and unstable. Consequently, if Dr. Haultain's book had only this mission, we should be in a sore strait between our admiration for this really excellent work, and our loyalty to educational principles. Happily a synopsis has a sphere of usefulness essentially its own, viz., for purposes of reference and revision, and here it is all important that the information given should be accurate and complete; these requirements are fulfilled in the "Practical Hand-book of Midwifery." Leaving to larger works the anatomy of the female organs, and the introductory subjects of ovulation, menstruation, and development, Dr. Haultain begins with the signs of pregnancy, and devotes the first seven chapters to the hygiene and pathology of pregnancy, including extra-uterine gestation and abortion. The next three chapters treat of labour, its mechanism and management, and of the puerperium. Chapters XI. and XII. are on what is called not very happily, "laborious labour," inasmuch as labour must necessarily be laborious; "lingering" seems to us a better term. The following four chapters are

on contracted pelvis, and on presentations other than those of the vertex. "Preternatural" labour does not give one a clear idea that face and brow presentations are meant. Chapter XVII. describes version, and instrumental and operative measures occupy other four chapters. We would raise a slight objection to the term "instrumental labour"; the man with instruments does not *labour*, he *delivers*, while the woman labours; so we should prefer to call it "instrumental delivery." After four chapters on complicated labour, including the important subject of hæmorrhage, and four on complications of the puerperium, the book closes with the artificial feeding of infants. The author always writes "ammenorrhea," for "amenorrhœa." Why? It is probably due to a printer's error that an "s" is put at the end of the name of Robert, the man who described the transversely contracted pelvis.

One ground of our objection to synopses in general is the grievous mutilation of sentences, by omission of parts of speech, which, though it has the high authority of Browning, has not in a prose work the plea of the exigencies of rhythm. Of these omissions the book before us is, of course, full, and occasionally phrases turn up in a sadly dislocated form; thus, "treatment of threatened abortion, try to avert by (a) absolute rest in bed; (b) empty rectum with enema." Or again, "Many women habitually miscarry, the so-called 'habit' of aborting." With the exception, however, of the style, which is no doubt inseparable from the form in which the book is presented, we have nothing but commendation for the clearness, the accuracy, and the completeness of the handbook. Dr. Haultain's tables of classification are useful, and his directions for treatment can be safely followed. To the student who has already completed his reading in a more expanded form, to the man in busy practice, who wishes to refresh his memory, and to the teacher who requires concise and well-arranged lecture notes we can heartily commend the book.

A. E. G.

*SUMMARY OF GYNÆCOLOGY, INCLUDING
OBSTETRICS.*

A NEW METHOD OF TREATMENT OF UTERINE MYOMA WITHOUT REMOVAL OF THE UTERUS, BY LIGATION OF THE OVARIAN AND UTERINE ARTERIES. *American Journal of Obstetrics*, April, 1894.

Dr. F. Byron Robinson reports the following case :—

In November, 1892, a woman, aged 42, consulted him on account of excessive hæmorrhage from the uterus of eighteen months' standing. During the last six months she had lost so much blood that she was becoming a bed-ridden invalid. Examination revealed a myoma of the uterus the size of a child's head.

She entered the Woman's Hospital. On account of extensive adhesions, thick abdominal wall, and the exhausted condition of the patient, it was thought unsafe to attempt to remove the tumour. He decided to ligate the ovarian artery, and then to ligate the uterine artery as far down as it was thought safe without risk of producing gangrene of the uterus. Two ligatures were applied to each uterine artery for about two-thirds of the distance from the tube to the internal os. The ovaries and tubes were not removed. The patient made a good recovery ; although an abdominal fistula remained for several weeks. Three months after the operation the uterus was about two-thirds its former size, and three months later it was one-half its original size.

He has since performed this operation three times, and so far with good results. The second operation was performed about five months ago, and the patient was doing well several

months after the operation. The last two cases are too recent to judge of the permanent results.

This operation will be useful in certain cases in which it is desired to cause atrophy of the uterus and immediate cessation of menstruation. In such cases ligation of the ovarian arteries and of the uterine arteries along the side of the uterus, together with removal of the Fallopian tubes, will accomplish this result by cutting off the chief blood supply to the fundus and body of the uterus. By this operation the shock attendant upon hysterectomy, which is so often fatal in very anæmic patients, will be avoided.

Great care and judgment must be exercised in the cutting off of the blood supply of the uterus, not to go beyond the limit of safety as regards gangrene. The minimum amount of blood supply necessary for life of the uterus cannot be stated, but it has been demonstrated that the ovarian artery and the uterine artery for two-thirds of the distance from the tube to the internal os can be safely ligated.

Dr. Franklin H. Martin has shown, in his operation of ligation of the uterine arteries through the vagina, that it is safe to ligate both uterine arteries as they cross the ureters. It must, however, be remembered that the uterus is fed by perpendicular branches from the utero-ovarian arteries, and hence that each uterine segment is supplied by its own straight artery. The uterus is very tolerant to variation, or even to sudden cessation, of its blood supply.

In the ligation of the arteries many nerves, including the automatic menstrual ganglia, will necessarily be destroyed, and immediate cessation of menstruation will result. This artificial menopause will lessen the nourishment of the uterus.

This operation will aid in :—

- (1) Atrophy of uterine myoma.
- (2) Cessation of menstruation.
- (3) Atrophy of the uterus and checking uterine hæmorrhage.

The operation heretofore performed to induce artificial menopause has often failed, or the desired result has not been obtained for months or even years.

L. N.

PUERPERAL PANOPHTHALMITIS DUE TO SEPTIC EMBOLISM.

CASEY A. WOOD, *American Journal of Obstetrics*, May, 1894.

“*Case*: A lady, 34 years of age, who had been married six years, had always enjoyed good health and excellent eyesight, and during all her pregnancies (four in number) had not suffered to any extent except from a slight leucorrhœal discharge and during her second pregnancy from albuminuria. There was no evidence, so far as I could ascertain, of specific disease either in her own person or that of her husband, who accompanied her. Still, her first child had been born dead, her second was living but unhealthy, her third pregnancy ended in a miscarriage, and her last child was also born dead at seven months. This last event took place on December 3, 1891. Three days before she complained of severe headache, on retiring, the pain becoming almost unendurable during the night. The increase in pain was followed by a cracking noise in the left side of the head and by pain in the left eye. When morning came the left eyelids were swollen, and patient found that she could not distinguish light with the left eye.

“During the day the lids of the right eye also began to swell, and soon became so heavy and œdematous that they had to be lifted with the fingers to enable the patient to see out of that eye. In two days this eye was also sightless; and so both eyes have since remained. The husband told me that the eyeballs protruded between the enormously swollen lids, but that matter did not commence to run from them profusely until two weeks after they first became affected.

“On January 13, 1893. The whole orbital regions on both sides were enormously swollen and thickened; the lower lids were everted and could with difficulty be replaced; the conjunctivæ, both ocular and palpebral, œdematous and covered with pus, hung in folds over the edges of the lids and hid from view the eyeballs, whose corneæ had been almost entirely eaten away. From gaping openings in the latter pus was still oozing. Some attempt at repair had been made on the

right side, where to a partially organised leucoma some lens matter was still adherent. The patient was weak and had a rapid pulse. Temperature almost normal. There was no albumen in her urine and no evidence of disease in the heart or lungs. There was no evidence of pyæmic foci anywhere except in her eyes. I could do practically nothing for the patient, and advised her to return home. The patient still lives, and her eyes, which are shrunken to about one quarter of the normal size, do not now give her any trouble."

The *prognosis*, so far as the life of the patient is concerned, is always very grave. Woods' is one of the very few on record where both eyes were affected and yet life was preserved.

The probable cause of the destruction of both eyes in this case seems to have been specific disease. Septicæmia cannot be assumed to have existed without a clearer history, and the previous obstetric history of the patient undoubtedly suggests syphilis.

L. N.

NOTE ON OLIGOHYDRAMNION OR DEFICIENCY OF THE LIQUOR AMNII. *Transactions of the Chicago Gynæcological Society*, January 19, 1894.

Dr. W. W. Jaggard submitted a valuable communication on this rare anomaly, of which the following is a full abstract.

The term covers all variations in quantity of liquor amnii from one thousand grammes (about one quart) down to a few grammes of thick, gelatinous fluid.

In this note I beg (I.) to describe a typical example of the anomaly ; (II.) to review briefly some of the recent literature of the subject ; and (III.) to point out its scientific and clinical import.

I. OBSERVATION. *History*.—IV. para ; 32 years old ; born in New England of American parents ; married ; five feet eight inches in height, one hundred and forty pounds in weight. The patient was a capable, intelligent woman. She had three living children, aged respectively 13, 10, and 5 years ; no miscarriages.

During the first half of this her fourth pregnancy, the woman was obliged to work hard in attendance upon her husband, who was sick with typhoid fever. During this period the cellar of her house was filled with water. Dr. Froom first saw the patient at seven o'clock in the evening of February 15, 1893; within thirty minutes after pains began. He found her in labour, as she alleged, at term. The uterine tumour, however, was notably small. The cervix was effaced and the os externum dilated to the size of a dollar. The child presented by the complete breech, in the first position (S.L.A.). The bag of waters was intact, and there was no soiling of the sheets nor of the woman's night gown, neither by blood nor any other fluid.

Labour progressed normally, and at half-past eight o'clock the same evening the woman gave spontaneous birth to the subject of this note. No liquor amnii whatever escaped during or after the labour. Dr. Froom speaks positively on this point, and he was in a position to observe, as he was present with the woman very soon after the beginning of labour up to its termination. The scanty and tough amnion was folded closely around the body, and required incision in order to permit the escape of fœtus.

The loss of blood during the labour did not exceed two fluid ounces.

The placenta and chorion, on examination, showed no anomaly. The amnion, separated from the chorion, was uncommonly scanty and tough. It was intact, except for the cut made by Dr. Froom to release the child. It contained one fluid ounce of thick, viscid, gelatinous substance, like that that covered the child's body, but absolutely not a drop of liquor amnii.

It is to be regretted that the placenta, membranes, and cord were not critically examined.

The puerperium was normal.

The woman, accustomed to observe details, alleged that no unusual discharge from the vagina occurred at any time during her pregnancy, nor during the brief half-hour that elapsed between the beginning of her labour and the doctor's arrival.

The woman's testimony and Dr. Froom's observation constitute competent evidence, adequate to prove that no liquor amnii escaped, neither during pregnancy nor labour.

EXAMINATION OF NEW-BORN MALE CHILD.—(Abstract.)

External Examination.—Weight 3,100 grammes, length fifty centimetres. Umbilicus three centimetres below centre of body. General external signs of full development at term, except there is no anal orifice whatsoever, and in the perineum there are no indications pointing to anus; the scrotal pouch is quite large, but does not contain any testicles; the penis measures seven centimetres from triangular ligament to end of foreskin, which is three centimetres long without being put on stretch: there is a minute orifice at end of foreskin, into which small probe can be inserted and passed for some distance without entering urethra proper; the glans penis cannot be made to protrude through contracted foreskin.

The lower extremities are everted: motion at knee is proper, but extremities remain completely everted on account of some change in hip joints, which can be made out definitely externally, although the femoral caputa roll around freely over dorsal surfaces of ilium.

The body is quite well nourished and well preserved.

Internal Examination. — *The left sterno-cleido-mastoid muscle is completely absent, while that on the right side is well developed.* Abdomen empty as to fluid; peritoneum smooth and shining; pelvis occupied by white, tumour-like growth, to which reference will be made more fully later on. Diaphragm reaches third left and fourth right rib.

The urinary bladder is replaced by a large tumour reaching umbilicus, the peritoneum being continuous over it on all sides; the mass is irregularly oval, with rounded nodules here and there; the dimensions are 10 X 5 X 5 centimetres in the various directions; palpation gives impression of hollow mass with thick, unyielding walls, and incision gives vent to twenty-three cubic centimetres of limpid, colourless fluid. The

relations of this mass to the surrounding structures are the following :—

The hypogastrics run as follows : the right passes in front of mass to its usual connection with internal iliac ; it is large and shows no changes ; the left is much shorter and much smaller. *The large intestine appears to terminate at the upper left-hand corner.* The right testicle, lying free behind the peritoneum, is connected with the mass by means of a slender, cord-like structure at about the same point ; the left testicle is connected by means of similar cord at middle of left aspect, it lying in the inguinal canal. The right kidney, found lying against lumbar part of spinal column, is connected with the mass by a fibrous structure three centimetres long and about two millimetres in diameter at its thickest point, nearest mass, which it joins between intestine and left spermatic cord ; *the left kidney cannot be found, nor can the left ureter be discovered.* There is no rectum. Probe passed through urethra is arrested permanently at triangular ligament. The mass on removal is found to be connected with urethra, and on incision along superior margin is disclosed a large cavity lined with membrane, much like the interior of a hypertrophied bladder, with interlacing trabeculæ and small sacculations, corresponding to external nodules, the wall over which is quite thin. In the thickest parts the wall is four or five millimetres thick, and very firm and quite dense. In the region of the insertion of the ureter and cords, as well as the large intestine, are three openings, one, evidently corresponding to the urethra, leading into canal along which probe passes to same obstruction that it encounters when passed from the free end of urethra ; a second opening corresponds to ureter, into which probe passes readily until it meets with obstruction two centimetres from bladder ; third opening leads into blind canal about two centimetres long, running downward in wall of bladder ; arrangement of openings to each other suggests normal trigone, &c. ; there is nothing out of the way about orifices except the one leading into blind canal, which is surmounted by little fleshy nodules. There is no opening into intestine from bladder.

The *only kidney* is a flattened, triangular-shaped bit of tissue, composed of thin-walled cystic spaces, each as large as a small pea; it weighs 2·5 grammes; its diameter at greatest point is three centimetres. Ureter departs from the centre of anterior surface. Two vessels leave it—one passes to aorta, one to vena cava.

Small intestine normal. Cæcum lies just below pyloric end of stomach—i.e., just to right of median line—higher up than usual; immediately below it the intestine becomes dilated and filled with black, semi-solid meconium (if intestine is cut across, meconium remains in intestine, does not run out); distension continuous down to junction of intestine with bladder at point described; probe passed in can discover no orifice from intestine to bladder.

Both hip joints show following: acetabular cavities too small to contain heads of femurs: ligamentum tere of left is 1·5 centimetres long, and is ribbon-like, three millimetres wide, and very thin. (Congenital luxation of femora.)

II. LITERATURE.—Lasarewitsch (*Lehrbuch der Gerbürtshilfe*, 1879, Bd. ii., p. 426 (Russian) describes a case.

Lomer (*Centralbl. f. Gyn.*, 1887, No. 34) records an example of absolute oligohydramnion in a IIpara, 32 years old, at term.

Claude's case (*Oesterr. med. Jahrb.*, Bd. xx., Stück 3; *Schmidt's Jahrb.*, Bd. xxviii., p. 189. Referred to by Lomer, *loc. cit.*) closely resembles Lomer's.

Like these also in Lente's case (*Schmidt's Jahrb.*, No. 171, p. 47; *American Journal of the Medical Sciences*, cxli., p. 125).

Mekerttschiantz reports an example of oligohydramnion that recurred in three successive pregnancies. (Mekerttschiantz, "Mangel von Fruchtwasser," *Centralb. f. Gyn.*, No. 51, 1887.)

Linck records an interesting case. (Linck, "Ein Fall von Zahlreichen intra-uterinen Knochenbrüchen," *Archiv. f. Gyn.*, Bd. xxx. Hft. 2.)

O. A. Peters' refers a monstrosity to oligohydramnion. (*Nederl. tijdschr. v. Geneeskunde*, 1890, Deel. i., No. 16; *Centralb. f. Gyn.*, No. 2, p. 56, 1891.)

Reichel demonstrated before the Berlin Society for Obstetrics and Gynæcology, January 14, 1887, a monstrosity associated with entire absence of liquor amnii. (*Centralbl. f. Gyn.*, No. 7, 1887.)

In the discussion, Reichel, Ebell, Schröder, assuming that the watery discharge escaped from the uterus, and not from urinary bladder, were inclined to account for the phenomenon on the hypothesis of hydrorrhœa gravidarum. A similar construction is placed on this case by Mekertschiantz. (*Centralbl. f. Gyn.*, No. 51, p. 834, 1887.)

Arthur E. Giles reports a case of "Malformation of rectum and bladder, congenital absence of both kidneys and ureters, imperforate anus, absence of right hypogastric artery, and deformed feet," before the London Obstetrical Society. In answer to an enquiry by Leith Napier as to the presence of hydramnion, Giles said he could obtain no history of the pregnancy or labour from the midwife. He remarked further that, according to Bonn (*Zeitschrift f. Physiol.*) complete absence of kidneys and ureters is rare. (*Transactions of the London Obstetrical Society*, vol. xxxiv., 1892, p. 129.)

The last two cases possess a very particular interest.

P. Strassmann presented to the Berlin Obstetrical and Gynæcological Society, November 10, 1893, two examples of absence of the liquor amnii that belong to the same group as the case described this evening. (*Zeitschrift f. Geburts. u. Gynäk.*, Bd. xxviii., Heft 1, p. 181, 1894.)

SCIENTIFIC AND CLINICAL IMPORT.—(1) Oligohydramnion in the earliest period of embryonal development implies a contracted amnion. When the amnion is contracted it presses the surface of the foetus and profoundly affects its development. When the tail cap of the amnion is contracted, phocomelius, symmelius, and sirenomelius are produced; cyclopus, cyclocephalus, trigonocephalus, when the head cap is involved.

(2) At a later time, but still within the first embryonal months, oligohydramnion is the chief factor in the determination of the foeto-amniotic bands described by Simonart and others. Gustav Braun was the first observer to refer these

bands to anomalies of growth and not to inflammation. Braun clearly recognised two factors: (1) a relatively rapid growth of the amnion, leading to foldings into the cavity of the ovum; and (2) a deficiency of liquor amnii, permissive of the foldings, and allowing contact and union with the surface of the foetus. In general, two groups of developmental anomalies are caused by foeto-amniotic bands and adhesions: (1) fissure formations, and (2) strangulations. Harelip, cleft palate, hernia of the umbilical cord, cranioschisis, rhachisschisis, are examples of fissure formations. Spontaneous amputations of one or all of the upper or lower extremities is an example of the highest degree of strangulations.

(3) When the liquor amnii is deficient at a still later period, after relative development of the foetal body, anomalies from pressure of the uterine walls occur. Under normal conditions the foetus is covered by a protective layer of liquor amnii, and its surface is everywhere under the same pressure—"general intra-uterine pressure." According to Schatz this pressure is very low in the pregnant uterus. The average tension is only five millimetres of mercury. If this protective envelope of liquor amnii is deficient or absent, the surface of the foetal body comes into direct contact with the walls of the uterus and the pressure becomes unequal. At the same time portions or all of the foetal body are fixed in one and the same attitude for a longer or shorter time. This fixation affects the direction and degree of growth of the portions immobilized. In this way, as pointed out by Otto Küstner ("*Müller's Handbuch der Geburtshülfe*," Bd. ii. Heft 2, 1889,) the pressure by the uterus directly deforms the foetus. The feet and ankle joints offer a slight resistance to this deforming pressure, as compared with other portions of the foetal body, and club-foot results. Küstner has shown that the effect of oligohydramnion in the determination of club-foot is greater than is generally believed by surgeons. Out of 150 cases of minimum liquor amnii, he has collected thirteen (8.6 per cent.) infants, otherwise well-formed, whose feet showed this effect of uterine pressure. Deformities of the hands from pressure occur, but they are less common than club-foot.

If the entire body is compressed the force is transmitted to the spinal column. The spinal column, however, is well protected by its firm structure, and by the fact that an increase in its kyphotic curvature permits the force to be dissipated. If the pressure be applied laterally, no adequate resistance is offered and the foetus remains fixed in a lateral flexion, as in the case described by Fritsch.

Absence or destruction of the foetal kidneys and oligohydramnion are not accidental coincidences. Oligohydramnion, later in pregnancy when the foetal body is relatively well-developed, is caused by absent or defective foetal kidneys or by obstruction to the flow of urine through the excretory ducts. The hypertrophied kidneys in the hydramnion of uniovular twins, the highest degree of excess of liquor amnii, lends probability to this view.

The behaviour of the kidneys, both in deficiency and in excess of liquor amnii, strongly corroborates Gusserow's theory that normally liquor amnii is derived in a large degree from the foetal kidneys.

This is the most recent and complete article which has appeared on the subject, and its great scientific interest seems to us to warrant the above full abstract.

L. N.

ACUTE INVERSION OF THE UTERUS. Dr. J. MONTGOMERY.
Birmingham Medical Review, March, 1894.

The author reports a case of this rare condition. It was caused by a midwife, who, finding that the placenta did not come away as soon as she wished, pulled on the cord with one hand, while with the other she pressed down over the pubes. The whole uterus became completely inverted, whilst the placenta remained, forming a firmly adherent cap. On Dr. Montgomery's arrival he found the patient in great pain, and a good deal frightened, but not in a condition approaching collapse. There had been no hæmorrhage, and to this he attributed the absence of collapse. He rapidly peeled off the placenta, and reinverted the uterus after cleansing it with

hot water. An antiseptic intra-uterine douche was given followed by ergot and a stimulant, and the patient made an uninterrupted recovery.

Dr. Montgomery says that this accident is never or hardly ever met with when the third stage of labour is properly managed. We quite agree with him in this, and in the stress he lays on the importance of this part of the accoucheur's duties. He calls attention to the absence of the two classical symptoms of acute inversion, viz., hæmorrhage and shock; the firm attachment of the placenta was probably the cause of the absence of bleeding. We should suggest that another factor may have helped to this result, viz., the absence of contraction of the lower zone of the uterus; venous congestion would in this way be minimised; and it was doubtless due also to this absence of contraction that the reduction of the inversion was effected "without any trouble at all." The paper concludes with remarks on treatment.

A. E. G.

BACTERIOLOGICAL OBSERVATIONS ON PUTREFACTION IN THE NEW-BORN; AND MEDICO-LEGAL BEARINGS THEREOF. Dr. E. MALVOZ. *Bull. de l'Acad. Roy. de Méd. de Belgique*, 4th series, vol. vii., No. 10, p. 894. (Abstract in *Jour. des Sc. Méd. de Lille*, Feb. 10, 1894, p. 141.)

The author has investigated the differences in the bacteriological putrefaction in still-born children, and in children who have lived. The classical researches of Escherich had already shown that at birth the intestinal canal contains no microbes, but that a few hours of life suffice for the advent into the intestine of numerous parasites, of which two kinds are specially important: the bacillus coli communis, and the bacillus lactis ærogenes.

In seven children who had breathed, the author found that the starting point of decomposition was the intestine; and that it was due to the species that reside in that canal, viz., the coli bacilli. In seven still-born children he found only the ordinary

bacilli, subtilis, fluorescens, micrococci, &c.; the putrefaction started in the cavities most closely connected with the external air, viz., the respiratory passages. He did not once find either the bacillus coli; or the bacillus lactis ærogenes.

In a test case the author found that the bacteriological examination gave a reliable indication of the fact that the child was still-born, although the lungs floated in water, and had the appearance of lungs belonging to a child who had breathed. On enquiries at the maternity, he found that the child had been born apparently dead, but that ineffectual attempts at insufflation had been practised.

He considers that this has an important medico-legal bearing, inasmuch as the presence of the bacillus coli, if not an absolute proof, offers at least a strong presumption that the infant has breathed.

A. E. G.

BIRTH LESIONS OF THE CENTRAL NERVOUS SYSTEM AS THE CAUSE OF MELÆNA NEONATORUM, by F. VON PREUSCHEN, of Greifswald. *Centralblatt für Gynækologie*, March, 1894.

The question of the causation of malæna has been hitherto quite open. It has been attributed to a great many different conditions, such as a hæmorrhagic diathesis, degeneration of blood vessels, heredity, premature ligature of the cord, swallowing irritant liquor amnii, gastritis, traumatism, &c. Von Preuschen was induced to investigate this condition by observing a case in which he found after death, erosions of the gastric mucous membrane, hæmorrhagic infarction of the lungs, and a rather extensive extravasation under the tentorium cerebelli, upon the right cerebellar hemisphere. He then proceeded to investigate the question whether the extravasation upon the cerebellum could have been the cause of the condition found in the stomach. From a course of experiments it appeared that unilateral lesions in various parts of the brain were followed by hæmorrhage from the gastric mucous membrane. About this time von Preuschen observed a second case of melæna, and again found on *post-mortem* an intra-

cranial extravasation, but upon the cerebral hemisphere, not beneath the tentorium. In the case of the second child labour terminated naturally; in the first case the head was delivered with forceps. Von Preuschen then undertook a further course of experiments to determine the nature of the nerve lesion which may cause melæna. He injected into various selected parts of the brains of very young rabbits, a single drop of a saturated solution of chromic acid. The procedure caused no hæmorrhage, and the exact spot acted upon could be determined after death by the staining of the tissues. These experiments established the fact that *localised lesions of various parts of the brain and cortex are invariably followed by infarction of the lungs or hæmorrhage from the stomach and duodenum or both together*. The largest extravasations followed experimental lesions of the floor of the anterior horn of the lateral ventricles. Von Preuschen has investigated the records of ninety-two cases of melæna; in only seven, however, of them was a complete *post-mortem* examination carried out, and in five of these seven cases blood extravasations were found in some part of the brain. *These cases, however, show that lesions of the brain and spinal cord occur after normal labours as well as after operative procedures.*

T. W. E.

A CASE OF RUPTURE OF THE UTERUS: SPONTANEOUS HEALING. Prof. DOHRN, of Königsberg. *Centralblatt für Gynäkologie*, March 17, 1894.

Cases are rare in which rupture of the uterus has been successfully treated by iodoform gauze tampons alone. Mery mentions fifteen cases thus treated in recent antiseptic times, and of these only seven recovered. The following case is, therefore, important, and we quote Professor Dohrn's graphic account of it in full.

"On the evening of December 9, 1893, the patient was brought to the klinik. She had travelled more than twenty miles on a sleigh through the winter cold, and arrived in a pitiable condition. She was unconscious; pulse 136, small;

the face very white; the abdomen distended by tympanitic coils of intestine; the uterus firmly contracted, the fundus lying to the right of the middle line at the level of the umbilicus; from the vagina hung the ligatured cord, dripping with blood.

"We obtained the following history of her case. She was the wife of a peasant, 41 years of age; had previously borne ten children. She had made a good recovery from her other confinements. She had reached the term of her present pregnancy, and pains set in on the previous night. At four o'clock in the morning the waters broke, and the midwife was then sent for. She recognised a transverse presentation, and sent off at once for a doctor. The doctor, without administering chloroform, ineffectually tried to seize a foot in order to turn. Failing in this, he decided to push up the presenting shoulder so as to allow the head to descend, and in this manœuvre the midwife assisted by making pressure from without. Suddenly the doctor felt the head of the child disappear into the abdomen. He found a large hole in the wall of the uterus, and the pains entirely ceased. A renewed attempt to pull down a foot was successful, and the dead child was then delivered without difficulty. At the desire of the relatives the patient was at once brought to Königsberg although the afterbirth was not delivered.

"In the klinik the external genitals were first thoroughly cleansed with 5 per cent. carbolic solution, then the vagina was douched, first with 1-1000 corrosive, and afterwards with 4 per cent. solution of boracic acid. The assistant physician having introduced his hand, found a large rent on the left side, through the cervix and vaginal roof, in which lay the placenta and some coils of small intestine. The placenta was removed, and very little bleeding followed; the coils of intestine were easily pushed up, and gave no trouble. The vagina was packed with a strip of 20 per cent. iodoform gauze, 3 metres long and 20 cm. wide, and a tight abdominal binder applied.

"The bleeding ceased entirely, and the patient revived a

little under the use of stimulants. No signs of internal hæmorrhage appeared, therefore operative procedures did not seem indicated.

"Six days later the iodoform gauze was removed; it had no bad odour.

"The anæmia gradually improved. For a short time there was a little rise of temperature, and four weeks later the patient was attacked with pneumonia of the left lower lobe. She recovered, and left the klinik on January 16, 1894.

"On her dismissal a large cicatrix was present, running up the side of the cervix and into the vaginal roof, and, as a result of contraction, the uterus was fixed and markedly flexed to the right."

T. W. E.

ON THE ETIOLOGY AND TREATMENT OF PRURITUS VULVÆ, by B. S. SCHULTZE, of Jena. *Centralblatt für Gynäkologie*, March, 1894.

Schultze objects to the term vulvitis pruriginosa being applied to all cases of pruritus, as Sänger has suggested, because he (Schultze) believes that there are cases in which the pruritus is not due to vulvitis. Sänger stated (*Cent. für Gyn.*, Feb. 17, 1894) that he had never seen a case of persistent pruritus without some lesion of the skin of the vulva, which, however, might not be apparent to the naked eye. Schultze believes that in many cases the vulvitis is induced by the constant scratching and rubbing which the abnormal sensations compel the patient to resort to. In such cases we are in danger of mistaking the effect of the lesion for its cause. There is, in fact, a vicious circle; the skin itches, and is therefore scratched, the result being that it itches more, and is again scratched. In this way the corium becomes affected, and it is very difficult to distinguish between cause and effect. Schultze records an instance in which, by interrupting this vicious circle, he cured an obstinate case of pruritus where no local lesion could be found, and in opposition to the view of Sänger, he believes that there are a considerable number of

cases in which the vulva shows no departure from the normal. In addition to inspection, it is necessary to test the sensibility of the parts very carefully with the point of the sound. Irritability of the vulvar skin he believes to be the result of mechanical irritation, such as scratching, for it is absent in the case of those who are able to resist the impulse to scratching and rubbing which the itching calls forth. If there be no local lesion, the affection is to be regarded purely as a neurosis. The seat of the irritation may be in the nerve trunks, nerve ganglia, or nerve centres, or at some distant spot, exciting reflexly the irritation at the vulva. Often the stimulus proceeds from the endometrium, for the contact of the sound with a small spot of the mucous membrane may induce marked itching at the vulva; and even if this sign fails, the pruritus may be cured by treatment applied to the endometrium. When endometritis and pruritus vulvæ exist together, the discharge flowing over the vulva may be the cause of the pruritus. But when every sign of local irritation fails, when the discharge is so scanty that it can only be recognised by the tampon, and when vaginal douching entirely fails to relieve the irritation, still it may be entirely cured by local treatment of the endometrium. Schultze records two cases of obstinate pruritus which were associated with endometritis, and which he entirely and permanently cured by antiseptic uterine douching. The cervix was dilated with laminaria tents, and then douched daily with 2 per cent. solution of carbolic acid, or 1-5000 corrosive sublimate solution. One case was cured thus in three weeks, the other was under treatment for two or three months.

When a patient complains of pruritus vulvæ, we must first inspect the vulva, and determine exactly its sensibility in all parts; when a local lesion is discovered, the case can only be successfully treated by operation. If no local change be found, we must next determine whether or not there is any endometritis present.

T. W. E.

COMPLETE ABSENCE OF THE INTERNAL GENERATIVE ORGANS IN A WOMAN. *Jour. des Sc. Méd. de Lille*, January 6, 1894, p. 9.

Dr. Alex. Faidherbe, of Roubaix, reports a case of this kind that came under his observation. Externally the patient had all the appearances of a well-formed woman. The breasts were, however, small. She never menstruated, nor had any monthly molimen; and she suffered from no "vicarious" hæmorrhages. She married, and coitus was found impossible. On examination there was a very short *cul-de-sac* $\frac{1}{2}$ cm. in depth. The labia were small and somewhat separated, even with the thighs brought together. A careful examination *per rectum*, with a sound in the bladder, and bimanually, revealed no trace of uterus or ovaries, nor was there any "ovarian" sensibility in the iliac regions. *Dr. Faidherbe* admits that the condition is not certainly proved without an anatomical and histological examination. But from the total absence of signs, and of symptoms of ovarian function, he concludes that it was really a case of total absence of the organs.

He discusses some of the cases reported by other observers, and refers to the legal aspects of the case from the point of view of the validity of the marriage.

A. E. G.

A NEW METHOD OF INDUCING LABOUR. *Dr. BOISSARD*.
Journal de Médecine de Paris, March 18, 1894.

The author holds that induction of labour may be faulty from being either too slow or too rapid; he has aimed at producing an artificial labour in about the normal time, by imitating as far as possible the natural process.

The method of Krause, with the sound, is unsatisfactory. The bag of Champetier de Ribes is so bulky as to frequently cause displacement of the fœtus, with great risk of prolapse of the cord. Tarnier's bag is difficult to introduce. Cham-

petier's process is too rapid, and has given an infant mortality of 62 per cent. Tarnier's process is slower and his mortality has been 18 per cent. Krause's method is too slow and the mortality on 118 cases was 37 per cent.

Boissard uses two instruments : the first for primiparæ, the second for multiparæ ; he uses the second also to hasten the process started by the first.

His first apparatus consists of a hollow aluminium tube, ten inches long, narrowed at the end, which is shaped like the nozzle of a flute. Its circumference here is one inch, it is slightly curved, and $2\frac{1}{2}$ inches from the end has a ring of cane, which marks the depth of introduction into the uterus. In this tube is placed an india-rubber tube terminating in an ampulla of ovoid shape. This india-rubber tube is vaselined and placed in the metal tube, in such a way as to just project above the end of the latter, and the whole is passed through the cervix, which can be done quite easily.

With a syringe the tube is now filled with liquid : the effect is that the india-rubber ampulla rises out of the metal tube till it has attained a diameter of about three inches ; for this about $4\frac{1}{4}$ ozs. of fluid must be injected.

The second bag, used to continue the labour started by the first, or, in the case of multiparæ, used at first, is of inelastic caoutchouc, and measures, when distended, four inches in diameter ; it holds $7\frac{1}{4}$ ozs., and has the peculiarity that its upper surface is concave. This minimises the dangers of prolapse of the cord and of displacement of the presentation.

Dr. Boissard has obtained very good results from these bags ; in twelve cases in which he used them the infant mortality was only 8 per cent. The duration of the labour so induced approaches the normal, viz., nine to ten hours on the average among multiparæ, and twelve to fifteen hours among primiparæ, when the small bag was used. With the larger bag the labour was shorter, because as soon as the concave dilator was expelled it was possible to terminate the labour at once with instruments.

Dr. Boissard concludes by conjecturing that given an in-

strument absolutely harmless both to mother and child, it may be justifiable, in the future, to always accomplish delivery surgically on a given day, using anæsthetics much more freely than is done at present.

While admitting that Dr. Boissard's instrument seems to be a useful improvement, we should yet maintain that unless there is some special indication, the more completely labour is left to the natural forces the better. A. E. G.

LIGATURE OF THE UTERINE VESSELS IN MYOMA, by Professor L. RYDYGIER. *Centralblatt für Gynäkologie*, March 31, 1894.

The principle of this operation, which the author first introduced in 1889, has since been advocated by Gottschalk and O. Küstner. Time has shown, however, that the results are not in all cases satisfactory.

A glance at the relations of the uterus, and the free communications between the uterine and spermatic arteries, shows that it is necessary to ligature all the arteries supplying the uterus.

In the case of a sub-serous myoma, the operation is not indicated and is unnecessary. It is suited to cases of not too large intra-mural fibroids, when the patient is so debilitated by hæmorrhage as to be unequal to severer operative measures. In some cases intra-peritoneal ligature of the spermatic arteries may be combined with vaginal ligature of the uterine arteries. But generally the operation may be considered as an alternative to oöphorectomy, when a complete hysterectomy cannot be undertaken. It is better to ligature all the vessels from within, as the intra-peritoneal method affords the opportunity of investigating the state of the parts more exactly before commencing the operation.

The author then relates the case of a woman, aged 32, who had suffered severely from hæmorrhage due to a myoma. On December 21, 1891, he opened the peritoneal cavity and ligatured the spermatic and uterine arteries, and the arteries of the round ligaments. The hæmorrhage ceased entirely

until the following October (ten months). It then returned, and rapidly increasing, assumed such serious proportions that when the patient presented herself again in March, 1893, she was so exhausted that death ensued from the results of anæmia, before an operation could be undertaken.

T. W. E.

[This is an important case in connection with the first abstract given.—ED. J. B. G. S.]

A CASE OF SYMPHYSIOTOMY, by RICHARD C. NORRIS, M.D., of Philadelphia. *Annals of Gynæcology and Pediatrics*, February, 1894.

The patient was a coloured woman, aged 18 ; unmarried ; a primipara. When seen by Dr. Norris she had been in labour for three and a-half days, and had been examined by a midwife, two medical students, a female physician, and four other physicians. The os was then fully dilated and retracted, the membranes ruptured. The head, although low in the pelvis, was movable, and had not engaged ; the sagittal suture was in the transverse diameter, the posterior fontanelle towards the left. The true conjugate was estimated at seven cm. (under three inches). An attempt was first made under ether to deliver with axis-traction forceps, but failed. The symphysis was then opened with the Galbiatti knife through an inch and a-half incision in the abdominal wall. Not more than a tablespoonful of blood was lost. The ilia were supported by two assistants, and the axis-traction forceps again applied. During traction the greatest separation at the symphysis was not more than $2\frac{1}{2}$ cm. (one inch). It required an hour and a half to deliver the head with very vigorous traction, the final birth of the head being rapid, as the foetal heart sounds were becoming rapid and feeble. The child gasped a few times, but could not be revived. After repairing the vaginal and perineal lacerations, the index finger was inserted in the abdominal wound, and the anterior wall of the bladder pushed back, as the cut surfaces of the

symphysis were allowed to come together. The abdominal wound was then closed with silkworm gut sutures, and the usual firm binder applied round the pelvis. The measurements of the head were full-sized, and the child, a female, weighed 8 lbs.

On the third day of the puerperium, cystitis and incontinence of urine appeared, which Dr. Norris is inclined to attribute to the careless use of the catheter by one of the physicians who saw the patient before him. There was also evidence of chronic Bright's disease. The cystitis improved under appropriate treatment, but on the fifteenth day the patient developed mania, which ran a prolonged course, and was unabated when the patient left the hospital five weeks after delivery.

Measurements of the pelvis made after delivery showed that the true conjugate was really only 6.5 cm. (a trifle over two and a-half inches), although during labour it had been estimated at 7 cm. In such a degree of contraction the proper treatment at term is Cæsarean section, and not symphysiotomy. Induction of premature labour and symphysiotomy, might be a desirable combination, in view of the greater danger of the Cæsarean operation. T. W. E.

PROCIDENTIA UTERI, by CHARLES P. NOBLE, M.D., of Philadelphia. *Annals of Gynæcology and Pediatrics*, Feb., 1894.

The greater part of the paper is occupied by a consideration of the conditions favourable to the occurrence of procidentia. In estimating the forces which retain the uterus in its normal position, the author gives an important place to the influence of atmospheric pressure, which is referred to by some writers as the "retentive power of the abdomen." This negative pressure within the abdomen is fairly constant, and helps to maintain the pelvic organs in position. Any circumstances which interfere with this function tend to promote procidentia of the uterus; as examples, the author instances the opposite conditions of undue laxity of the abdominal

walls, and tight lacing. Constipation, leading to straining at stool, and laborious work act in the same way. More important causes of procidentia are conditions affecting the proper anatomical supports of the pelvic organs themselves. These proper anatomical supports, according to the author, are as follows : (1) The structures composing the pelvic floor, the most important of which are the levator ani muscles ; (2) the various ligaments of the uterus. These supporting structures act in the following manner : "The rectum and vagina receive direct support from the levator muscles. The anterior wall of the vagina and the bladder are supported upon the posterior wall of the vagina ; and the uterus and its appendages are supported upon these structures." Weakening of the pelvic floor by laceration or atrophy is by far the most frequent cause of procidentia. Retro-displacement of the uterus, or increase in size and weight of the uterus may, however, of themselves cause procidentia. The author cites the case of a nulliparous woman who had been compelled to do laborious work with heavy lifting. Her uterus became retroverted, then prolapsed, and finally had been forced down so low that it protruded between the labia. She had a lax but intact pelvic floor.

Treatment.—The author emphasises the importance of prophylactic treatment. Immediate repair of lacerations of the perineum after labour is most important, and should be carried out with great care, and attention to details under an anæsthetic. The treatment of retro-displacements, and of subinvolution of the uterus, are also regarded as prophylactic. The author points out the frequency with which procidentia is associated with supra-vaginal elongation of the cervix, and recommends in such cases the combined operations of amputation of the cervix, anterior colporrhaphy, and perineorrhaphy. The amputation of the cervix reduces the size and length of the uterus, the anterior colporrhaphy takes up the slack under the bladder, the perineorrhaphy restores the pelvic floor, and gives permanent support to the bladder and uterus. The use of the pessary the author roundly condemns,

"except in those rare cases in which procidentia has occurred in spite of the fact that the pelvic floor is intact." He points out that the pessary cannot restore a torn pelvic floor, and its use is therefore illogical, and can be of only temporary value. We are certainly of opinion that this fanciful objection to the use of the pessary in prolapse, need not prevent practical men from continuing to employ it in suitable cases with the best results.

T. W. E.

SIMPLIFIED SUPRA-VAGINAL HYSTERECTOMY. *Universal Medical Journal*, March, 1894, p. 76.

An abstract is given of a communication by Dmitri de Ott, of St. Petersburg, to the fifth Congress of Russian Physicians, January 8-17, 1894. After disinfection of the vagina with perchloride, 1-2000, the cervix is curetted (after dilatation, if necessary), cauterised with a Paquelin's cautery as high as possible, and the vagina packed with iodoform gauze. This takes ten minutes. An abdominal incision is made, and the tumour drawn out, the broad ligaments being ligatured and partially resected. The pedicle is ligatured and the uterus amputated transversely. The upper part of the cervix is cauterised. Two strong ligatures are then placed on the pedicle, from before backward, $\frac{1}{2}$ to 1 cm., below the surface of the section, in the vicinity of the cervical canal, one to the right, the other to the left, and knotted on their respective sides, thus constricting into two portions, right and left, almost the entire tissue of the cervix, without at all involving the cervical canal, which remains permeable throughout its entire length. There remain two small portions of the uterine tissue, in front and behind. If necessary, before tying the two ligatures, two others can be placed at right angles, to secure these portions of tissue, thus ensuring complete hæmostasis of all the cut vessels of the stump, without involving the cervical canal. The constricting ligature and the gauze vaginal tampon are then removed; and with the aid of a long eyed sound a wick of iodoform gauze is introduced, from above downward, the entire length

of the cervix, the upper end being on the surface of the section. A second vaginal tampon is introduced, the stump is dropped into the abdomen, and the incision is closed with sutures. Advantages claimed :—(1) Duration of operation is shortened ; (2) antisepsis is more perfect ; (3) hæmostasis is not more difficult ; (4) the after treatment is very simple ; (5) the mortality is low. In twenty-three cases there was but one death, or 4·3 per cent. ; while in thirty-one cases by the ordinary method of hysteromyomectomy it was 24·4 per cent., and in eleven cases of laparo-myomectomy it was 36·4 per cent.

A. E. G.

PASSAGE OF FOREIGN SUBSTANCES THROUGH THE PLACENTA. *Gaz. Med. de Paris*, January 6, 1894 (*Universal Medical Journal*, February, 1894, p. 38).

M. Porak read a paper on this subject before the Académie de Médecine, January 2, 1894. Arsenic, copper, lead, atropine and phosphorus pass through the placenta, while mercury and alizarine do not. Copper and mercury accumulate in the placenta, while lead is not found there. Poisons are accumulated and become diffused in the foetus more rapidly than in the mother. This shows that certain abortions are due to the action of these poisons upon the placental circulation, or to the effect of the health of the mother upon that of the child. It also explains the mortality of the foetus by the accumulation of the toxic substance in the placenta, and in the central nervous system.

A. E. G.

VENTRO-FIXATION OF THE UTERUS. Dr. W. J. SINCLAIR. (*Medical Chronicle*, April, 1894)

At a time when this operation is much under discussion, Dr. Sinclair's paper is valuable. He reports twelve cases in which he performed it ; the results were on the whole very satisfactory ; two of the patients became pregnant subsequently ; one of these was delivered of a child at term : the puerperium was quite normal. The other was, at the time of writing, seven months pregnant.

The chief indication for the operation is in those cases where it is desired "to relieve the almost intolerable troubles produced by complicated retroflexion, when pessaries cannot be borne, or make matters worse by pressure, and when the ordinary methods of manipulation after depletion have entirely failed to considerably palliate, much less to cure." The only reference to British literature on the subject in Dr. Sinclair's paper is to Dr. Phillips' case, reported in the *Lancet*, 1888, p. 760; "if any other papers have been published," says Dr. Sinclair, "they have escaped my attention." We would, therefore, point out to the author that a paper, with a table of twenty cases, was read before the British Medical Association at Newcastle, last year, by Drs. Leith Napier and Schacht, and published in the *British Medical Journal*, ii., 1893, p. 838.

The chief objection to the operation is the liability to ventral hernia, whilst "the most obvious and striking advantage is the relief from pain and pelvic distress, and even though the relief may not be absolute, still the amount of relief is so considerable as in itself to justify the operation, should the salient objections be removed. There is a large surplus of advantage. . . . The operation is a cure; the pessary is an unsatisfactory palliation."

Conclusions.—(1) The various published series of cases show that the element of danger is almost *une quantité négligeable*. The present writer's series support this opinion.

(2) The operation, efficiently performed, is a permanent cure of the troubles arising from chronic retroflexion of the uterus, complicated with adhesions or inflammatory affections of the tubes and ovaries.

(3) When pregnancy occurs after the operation no distress is experienced by the patient, and no unusual phenomena are observable during the pregnancy, parturition, or the puerperal state.

(4) Contrary to what might be expected, bladder troubles are quite the exception after the operation, and these discomforts are almost certainly avoided by care in operating.

(5) In a certain proportion of the cases ventral hernia occurs at the site of the cicatrix. How this is to be prevented is one of the problems of the future.

(6) After making full allowance for the element of risk, and the incidental drawbacks, the operation of ventro-fixation is not only justifiable, but is indicated in a certain limited number of cases of retroflexion of the uterus with complications.

A. E. G.

EDITORIAL NOTE AND MEDICAL NEWS.

THE British Gynæcological Journal Committee has, after much consideration, decided to alter the paper on which the Journal is printed, as many of the Fellows have expressed the opinion that a smoother and tinted paper, with cut pages, would be preferable. With this, the first number of a new volume, the change has been made. Our readers must recognise that while the paper on which the Journal is printed is thinner in texture, the matter contained is, at least, up to the average.

We hope to introduce some new features, which will tend to make the Journal more useful to our readers who desire to be informed of the more recent and ever advancing work in gynæcology, and yet are unable to be in personal touch with their co-workers on the specialty.

THE INTERNATIONAL MEDICAL CONGRESS, 1894.—The International Medical Congress at Rome attracted a large number of visitors from all parts of the world. The Gynæcological Society was represented by Drs. Bantock, Travers, Macpherson Lawrie, and the Honorary President, Dr. Robert Barnes, as delegates. The special work of the sections has already been made public in the weekly journals.

THE BERLIN OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY held its jubilee celebration in May. The function was a brilliant one; illuminated addresses, congratulations, and good wishes from all the prominent sister societies were rife. Mr. Lawson Tait travelled to Berlin to represent the British Gynæcological Society.

THE BRITISH MEDICAL ASSOCIATION will hold its annual meeting at Bristol in July. The Obstetric and Gynæcological Section is officered by Dr. Swayne as President; Drs. Malins and Aust Lawrence as Vice-Presidents; and Drs. R. Boxall and Walter C. Swayne, as Secretaries. Several interesting papers and two good discussions have been arranged for.

BOOKS RECEIVED.

Books received for review, which are hereby acknowledged with thanks:—Baldy's Gynæcology; Garrigues' Diseases of Women; Bigelow's System of Electro-Therapeutics; American Gynæcological Transactions, 1893; Transactions of the American Association of Obstetricians and Gynæcologists, vol. vi., 1893; Sullivan's Proclivity of Civilised Women to Uterine Displacements; Auvard's Gynécologie (2nd edition); The Physician's Wife, by Mrs. E. M. Firebaugh; Carpenter's Congenital Heart Disease; Haultain's Handbook of Midwifery; &c., &c.

THE BRITISH GYNÆCOLOGICAL JOURNAL.

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AUGUST, 1894.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, MAY 10, 1894.

PROFESSOR THOS. SAVAGE, M.D., PRESIDENT, IN THE CHAIR.

PRESENT: 24 Fellows.

A CASE OF A LARGE POLYPOID GROWTH IN THE UTERUS,
TAKING ON SARCOMATOUS ACTION; COMBINED AB-
DOMINAL AND VAGINAL HYSTERECTOMY: RECOVERY.
By FRED. BOWREMAN JESSETT, F.R.C.S., Surgeon to
the Cancer Hospital, Brompton.

I venture to bring this case before the Society as I believe it exhibits a somewhat rare condition of things. It is not uncommon for a fibroid connected with the uterus to take on a sarcomatous action, but I believe it is rare for a polyp to become sarcomatous at the time of life this patient had reached.

On April 9, Dr. Walker, of Hamilton Terrace, asked me to see Mrs. R., aged 57, with him. She was a widow, and had had three children, the youngest about 30. She had enjoyed

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good health until about three years ago, when she had some violent floodings, for which her medical attendant at that time took her to see Dr. Braxton Hicks. She has had a great deal of worry and anxiety. There is no history of cancer in her family. In answer to a letter I wrote to Dr. Braxton Hicks as to her state when he saw her, he most courteously has sent me the following few particulars: "About two years ago," he says, "I saw Mrs. R.; she had then a 'sloughing fibroid;' the greater portion of the mass came away, but some remained. She gradually improved in health and got about. I saw her about four months ago; she was then without offensive discharge; there was leucorrhœa, and the uterine tumour was about the size it was when I saw her before. There was nothing then to indicate change of growth or operation." Since then the patient had complained of pain in the back; she cannot walk without a good deal of distress; she has had attacks of bleeding and some badly smelling discharge. The jolting of cab or omnibus causes her pain.

Present State.—By abdominal examination a well-marked tumour is discovered situated somewhat deeply in the pelvis. The parietes are flaccid and admit of ready examination. She is well nourished, although she has lost flesh of late. Has had two attacks of intestinal obstruction, one a very severe attack. The tumour felt by the abdomen appears to extend somewhat along the left broad ligament. A boss is also felt about the size of a tangerine orange, apparently in the right broad ligament.

Per Vaginam.—The os feels healthy; there is no erosion or ulceration. The uterus is readily movable; the tumour appears to be in the body of the uterus; there is a good deal of thickening of the left broad ligament. A sanious, blood-stained, badly-smelling discharge is seen escaping from the os; this discharge is sero-purulent in character, and causes a good deal of irritation of the labia. The sound passes readily for four and a-half inches; slight bleeding followed its introduction. Bimanually, the uterus presented a soft doughy sensa-

tion ; it was freely movable excepting on the left side, where it seemed to be slightly held down.

Diagnosis arrived at was that there had been a fibroid growth in the uterus, but taking into account the age, the offensive discharge with hæmorrhage, I was of opinion that now the growth was of a sarcomatous character, and advised early removal, which, after consideration, was agreed to by the patient and her friends.

Operation. — On April 19, with the assistance of Dr. Walker, Dr. Purcell and Mr. West, Dr. Dudley Buxton giving the anæsthetic, I performed the following operation.

From the size of the tumour it was recognised that considerable difficulty would be experienced in removing the uterus with its growth *per vaginam*, although I hoped to be able to do so. I went prepared to open the abdomen in case such difficulty was experienced, which proved to be the case.

The patient was placed in the lithotomy position, and the vagina was well washed out with carbolic solution (1—40). The os uteri was then seized with vulsellum forceps and readily drawn out to the vulva. The mucous membrane was next divided round the whole circumference of the cervix, and the anterior and posterior *cul-de-sac* of the peritoneum opened. The uterine arteries were next secured, and the uterus freed to a point above the arteries. I next endeavoured to tilt the uterus, both anteriorly and posteriorly, but from its size found it was impossible to deliver it. I next discussed the advisability of opening up and dividing the uterus, but as I believed the tumour to be a sarcoma, and there was a possibility of soiling the peritoneum extensively, I decided to open the abdomen and finish the operation from above. The patient still being retained in the same position, I, after shaving the pubes and thoroughly cleansing the skin, made an incision some three inches long in the middle line and seized the fundus of the uterus with vulsellum forceps, and readily drew it through the wound. I then found that the left ovary and tubes were matted together to a loop of

intestine. I detached this and ligatured the broad ligament from above downwards, first on the left and then on the right side, the lowest ligature meeting that which had been passed round the uterine arteries from the vagina. The broad ligaments now being divided between the ligature and uterus, the latter was easily lifted out. The abdomen was flushed out with warm water, being allowed to drain through the vagina. All bleeding being arrested, I caught the two flaps of the peritoneum with curved pressure forceps and drew them into the vagina. A glass drainage tube was introduced and the vagina packed around it with strips of iodoform gauze. The patient, who was very exhausted, was now returned to bed. She rallied rapidly, and in the evening was quite comfortable.

The drainage tube and gauze were removed the next day, as patient complained of a great pain in the right side. Most of the ligatures were removed at the end of the week. There was a good deal of discharge, and pain was complained of in the right iliac region. On the tenth day there was a severe purulent discharge, which appeared to come from the right side rather high up. After this the temperature dropped. At the end of a fortnight the discharge had much decreased, and patient appeared bright and cheerful.

Patient is now, three weeks after operation, Dr. Walker tells me, doing well, and gets on to the sofa daily.

Remarks.—This case is of interest, I think, from two points of view; one, the fact of these large polyps existing and taking on a sarcomatous growth, and the other from the method of performing the operation.

Dr. John Williams has, in his Harveian Lecture, drawn attention to the way in which carcinomatous growths occasionally assume a polypoidal shape, while the uterine wall at their base may be healthy. These polyps, as Ruge and Veit and John Williams have explained, may break down and disappear, and leave a mass of cancer in the uterine walls. It is fully recognised that fibroids do undergo sarcomatous degeneration thus,

Mr. Plimmer has given me the following references on this subject :—

Woodhead ("Pathology," 3rd edition, p. 526): "Portions of a fibroid tumour (of uterus) may undergo sarcomatous degeneration."

Doran (*Lancet*, May 10, 1890) gives an account of a case of a fibroid becoming sarcomatous.

Cornil and Ranvier ("Pathologie," vol. ii., p. 726) states that uterine fibroids may undergo cancerous degeneration.

Playfair, in "Quain's Dictionary," says they may undergo malignant degeneration.

Pozzi ("Gynæcology," vol. ii., p. 97) speaks of the sarcomatous degeneration of fibroids, and quotes Chrobach, Müller, Simpson, Frankenhäuser, de Kurz; he also states that "it is most probable that fibrosarcoma have always had fibromata in generative tissue" (meaning, I suppose, that they always begin as fibroids).

In this case I started the operation *per vaginam*, in the hopes of being able to draw the uterus, with its growth, through the vagina, and having freed the cervix, opened the peritoneum anteriorly and posteriorly, and ligatured the uterine arteries; the whole of the tissues between the roof of the vagina and the floor of the peritoneum were divided, and thus the uterus was only retained by the round ligament and tubes, and peritoneum forming the broad ligament. It being found to be impossible to remove the uterus through the vagina, I, still sitting in the same position, and the patient retained in the lithotomy position, opened the abdomen, when it was found by thus having freed the cervix uteri as described, the uterus was easily lifted out of the pelvis and the broad ligaments readily ligatured. So far the operation was conducted, I believe, much in the same way as Martin of Berlin practises, although I have not had the advantage of seeing this surgeon operate.

The advantages of keeping the patient in a lithotomy position, I think, are obvious: first, the abdominal parietes are made quite lax, so that it is easy to withdraw a tumour

through the abdominal incision. Secondly, the surgeon has complete control of the vaginal and abdominal opening, and so is enabled much more accurately to ligature the broad ligaments, and the peritoneum and vagina are more easily and thoroughly washed out, and all clots, &c. are removed.

The final steps of the operation differ from Martin's method, in that he laces the peritoneum across, through the abdominal wound; I prefer, as I have mentioned on previous occasions, to draw the two flaps of the peritoneum down into the vagina and packing them round with strips of iodoform gauze, passing for the first twenty-four hours a glass drainage tube into the peritoneum.

You will see by examining the specimen that it consists of large polypoidal growth lobulated, in some parts very hard, at others soft and cystic. It is attached to the fundus of the uterus by a narrow pedicle. The uterine walls are somewhat soft and thinned. The cervix and os appear to be quite healthy. Mr. Plimmer has kindly made a microscopic examination of the growth, and has given the following report of the specimen. It will be noticed that the right ovary is cystic, and this evidently is the boss which was felt on the right side before the operation.

Mr. Plimmer says: "The tumour consists of non-striated muscular tissue, and sarcomatous material, in varying proportions. In the harder parts it is almost entirely of the ordinary "uterine fibroid" structure, but in all but the very hardest parts there is some sarcomatous material with it; the softer parts are almost entirely sarcomatous, with bands of connective tissue which are rich in fusiform cells, with prolongations of various length; between these bands are large collections of round cells with well marked nuclei closely packed together. In the superficial parts are bundles of fibrous and unstriped muscular tissue. The blood supply is rich, and there are around the vessels some spots of hæmorrhage. No mucous membrane or glands found."

DISCUSSION ON MR. JESSETT'S PAPER.

Dr. PURCELL had had the pleasure of assisting Mr. Jessett in the first operation referred to. At the time the operator was trying to tilt the uterus anteriorly and posteriorly in the pelvis; the difficulty was that it was held in position above and that it was very bulky. The question arose, Should the uterus be divided and removed in pieces? or should it be emptied? The danger of either procedure was the risk of infecting the peritoneum with the sarcomatous growth. The lesson taught by the case was that when the uterus was very large, it might be retained by adhesions of such a nature that any attempt to forcibly separate them would be attended by grave risk; in this case the adhesions were between the ovary and tube and a loop of bowel; the latter would certainly have been injured by dragging out the uterus *per vaginam*.

Dr. BANTOCK thought that the interest of the first case lay rather in the pathological nature of the tumour than in the operation performed. Out of nearly 200 cases of uterine fibroids on which he had operated, he had seen only one case in which there was malignant disease, and that was a sarcoma of the lower segment of the uterus. In that case he removed the uterus entirely, using Martin's method. There was at the same time a growth in the vagina so suspicious as to lead him beforehand to suspect that the uterine growth was malignant. This proved to be the case. Within a very short time the vaginal growth had doubled in size, and before very long the patient succumbed to a recurrence, or the natural progress of the disease.

The method employed by Mr. Jessett was not new; it was the same in principle as Freund's operation for cancer, the difference being in the mode of dealing with the peritoneum. He, personally, preferred Freund and Martin's method.

ADJOURNED DISCUSSION ON DR. ROUTH'S PAPER, "ON THE CONSERVATIVE TREATMENT OF DISEASES OF THE UTERINE APPENDAGES."

The adjourned discussion on Dr. Routh's paper was opened by Dr. HEYWOOD SMITH. He said that being in the chair during the greater part of Dr. Routh's paper it fell to his lot to propose the adjournment. The result was that he had to open the discussion this evening, although he would have preferred to speak later, inasmuch as it was more pleasant to criticise than to be criticised.

In the public mind, medical men fell into two divisions, namely, those who operate and those who do not. If an operation succeed, the patient returns to the man who operated; if otherwise, she goes to some one else, probably a non-operator. In this way some physicians see a fairly large proportion of the failures of others, and may in consequence form an incorrect idea of the true proportion of successes and failures.

The main argument in the paper was the damage done to the woman by oöphorectomy; and the considerations were based chiefly on the secretion which is said to take place in the ovary of a substance which plays an important part in the female economy. This substance, spermin, is said to be produced also in other organs. The question must first arise, Is it a fact that this secretion occurs? Does such secretion ever occur in a closed gland like the ovary? The ovary has been compared with the testes; but we have no evidence that the body is supported by the absorption of substances secreted by the testes; whatever is formed in that gland is discharged from time to time, either through the action of the rectum, or involuntarily. And so it was necessary to be cautious in drawing deductions.

As regards the results of operations on the appendages, it was true that they were often discouraging, both to patients and to operators; and if Dr. Routh's views were true, the results should absolutely deter them from operating at all;

because it would be an awful thing to have to point out to patients that as a result of the operation they might become like eunuchs, or changed into man-like creatures, or, worst of all, insane.

But these views could not be generally accepted. Moreover, in cases that came before them, with manifest pain, and disease of the ovaries, they must consider the social position of the patient. If the patient were in a position to lie up, and wait for weeks or months to see if an operation were necessary, an expectant treatment might properly be adopted, at least for a time; but in other cases the poor women were the bread-winners, inactivity for weeks or months meant certain starvation for themselves and sometimes for their children, the cruel alternative being the workhouse. In many of the cases referred to in the paper, the organs were said to be quite healthy; but this was simply begging the question. Pain is pain to the sufferer, and whilst the ovaries may not have seemed to the naked eye to be diseased, yet there might be minute disease, which could not be recognised except by microscopical examination. Of course, if the ovaries were sound, it was obvious that operation would be useless.

The fallacy of the deductions in the paper from *post-mortem* records was palpable. A pyosalpinx was found at the autopsy, and it was inferred that because the patient died of something else, the pyosalpinx was of little moment, and would not have been fatal. This again was begging the question. Because a person died of some disease in the course of another, it was no proof that the second would have done no harm. This was so evident that examples were superfluous.

As Dr. Routh had insisted so much on the unsexing of the woman, and on her maternal faculties as her very *raison d'être*, it was well to point out that many of the conservative operations would themselves be necessarily followed by sterility. It was easy to talk of ignipuncture of ovaries, resection of tubes, &c., but the lumen of a Fallopian tube was very small; even if dilated, it shrank after operation; and after resection and

suturing there would certainly be a resulting constriction, followed by sterility. Ignipuncture of the ovary was not without risk, and in the case of resections of the ovary, the length of the operation was a disadvantage; whilst the result was more problematical than in the case of the major operation of removal. The whole thing should be put before the patient, and it should not be laid down in placing the matter before her that all the direst consequences would follow. From his own observation he did not for a moment think that the consequences were so grave as had been represented.

Then as regards curetting: it was often a good prophylactic measure, to prevent the conduction of disease; but when once there was inflammation of the parts beyond, curetting might be the cause of the setting up of worse disease. No doubt Dr. Routh was right when he said that there were some swellings which would subside under treatment; and their duty should be to differentiate between these cases and those in which there was no hope except from operation. No doubt, also, electricity should receive more attention than was generally the case; but after all, it was often a matter of time, and an operation might be necessary in the end.

The aspirator was sometimes safe when an abscess which had fixed the ovary was bulging palpably into the vagina, but in dealing with a pyosalpinx, for instance, in which the abscess-cavity was mobile and the oviduct was free to discharge into the peritoneal cavity, aspiration might be fatal.

He felt he must protest against such expressions as "castration," "eunuchs," &c., in relation to this subject; the terms were inapt, and, in addition, might get abroad among patients and the public, in which case they might do very great harm.

Dr. PURCELL: I think at the last meeting the Fellows acted wisely in postponing the debate on Dr. Routh's exceedingly admirable paper, and the thanks of the Society are due to Dr. Routh for bringing the subject matter before them, viz., "the conservative treatment of diseases of the uterine appendages."

His elucidation of the subject matter, and the copious references to contemporaneous workers in conservative gynæcological work, has been a most salutary "break" on the too general method by operation of removal of the adnexæ, the unnecessary unsexing of females for diseases of the appendages, which experience has shown can be cured by more rational and less risky methods. Under "Conclusions," the author has summarised his paper under seven heads. He alludes to the advisability (after Dr. Polk) of the partial resection of tubes and of ovaries, and cutting or tearing adhesions and replacing portions so treated within the abdomen by abdominal section, or their treatment through the vagina or rectum. No hard-and-fast line is here laid down; where the ovaries are sufficiently diseased, removal of both ovary and tube is advised, but the crux rests, should the ovary be removed with the tube, if the tube only is diseased?

Polk's practice shows not; remove the tube but leave the ovary, even if the tube be occupied by a pyohæmato- or hydro-salpinx; the treatment of these tubes is to be commenced in the first instance not by abdominal section, but by dilating the uterus, curetting with a sharp curette, and then packing up with as much gauze as the cavity will hold.

Now the theory that salpingitis is an extension from the uterus of disease of the uterus, must be treated by way of the uterus by curetting or by employing electricity as an adjunct, or after "Apostoli," it is the true test of gonorrhœal pyosalpinx, for the author has shown that electricity is fatal to gonococci, killing the germs, effecting a cure without castration. Dr. Routh has given his own method of treatment for nearly all cases of salpingitis, which stands to reason, and a well advised one to follow before resort is had to abdominal section.

The mortality of cases of diseased adnexa, if left to themselves, varies from *nil* to 4 per cent., if operated on by abdominal section varies from 2·5 per cent. to 12·1 per cent.; these statistics will make the gynæcologist "stay his hand" before he attempts removal of the uterine appendages.

The entire paper bristles with subject matter well worthy of the closest consideration, and I tender Dr. Routh my humble thanks for his unremitting labour in the treatment of his subject.

Dr. R. T. SMITH said he thought that the paper deserved much praise as a record of work done. But for his own part he strongly objected to be told that he had been "castrating" women. He had done the operation many times, but never with the idea which such a term implied; and the word, if used in talking to patients, would give them quite a wrong impression. At the same time he could quite sympathise with Dr. Routh in his jealousy lest any injury should be done to women. The whole question of spermin was new to him, and he had hoped that Dr. Routh would take the other side, and object to the practice of injecting these fluids. If they were to get a reputation for doing such things, to rejuvenesce old men, &c., they would soon get into disrepute. This he spoke as a note of warning. If the matter of these secretions were as Dr. Routh said, how was it that these effects passed away, and that many women were stronger and in better health after 40 than they were before? He was glad to be able to agree with Dr. Routh when he said that in cases of salpingitis associated with menorrhagia, they ought to turn their first attention to the uterus; he had himself laid down this rule six years ago, quite lately he had treated two patients under these conditions with the best results.

He had recently, after reading Dr. Routh's paper, tried electricity (the negative pole) in a case of gonorrhœal salpingitis, there was already much improvement and the pain had lessened; but there was in this case, as had been found by other observers, much discharge from the uterus, following the electrical applications.

Dr. MACNAUGHTON JONES said that while many others had more personal experience than himself of the results of the operations under discussion, it might not be wholly without advantage to have the question touched upon by one who was not committed to either side. It did not appear to him

that this paper would shed much additional light on a subject which had been so lately threshed out. At the same time, he thought Dr. Routh was to be complimented and thanked for the trouble he had taken in compiling the statistics and literature of the subject. Remembering the very heated arguments which had been advanced from time to time, he admired the quiet and dispassionate way in which Dr. Routh had written. He strongly objected to the term "*castration*," as employed by Dr. Routh, as it implied mutilation, and the removal of healthy parts. Oöphorectomy, on the other hand, was an operation for the removal of parts which were found to be diseased. In many of these cases there was no means, except by abdominal section, of ascertaining the exact condition of the diseased organs. In the light which modern surgery had thrown on the pathological conditions of the tubes, independently of any obvious disease of the uterus, and inasmuch as these sufferers ought not to be left to take their chance of a natural cure, he should regard the man as little short of a criminal who, influenced by prejudice, or deterred by fear of consequences, should refuse to operate. He did not envy the feelings of such a man, if, as might frequently happen, the patient suddenly died from the rupture of a blood cyst or suppurating tube, after she had confided to his hands the safety of her life. He felt that this question touched them all very closely; it had been discussed in the public press, and could not be satisfactorily solved except by free discussion in such a society as this.

It is well worth considering what a distinguished *woman* gynæcologist has to say on the subject of oöphorectomy. Dr. Mary Dixon Jones, of Brooklyn, whose excellent surgical and pathological work is well known, in an article on "*Microscopical Studies in Pelvic Peritonitis*," says:—"In plastic peritonitis, when the tubes and ovaries are bound in with pseudo-membranes, as also in purulent peritonitis, when there are larger or smaller abscesses, in connection with, and as a result of, disease of the tubes and ovaries, the only way of permanent cure is by removal of the diseased structures."

Again:—"The fearful consequences of these diseases, whether produced by gonorrhœal infection or from the introduction in various ways of staphylococci or streptococci, should urge us to consider some mode of protection. No disease is more serious in its possible results. No greater calamity can happen to a woman. It blights for ever her dearest hopes, cruelly darkens many of her brightest visions, and destroys for ever the organs that make her a woman, and by which she may become a mother. The removal of the diseased uterine appendages by surgery is only to save her from more serious possibilities. With or without an operation she is sterile."

And in another able communication on "Oöphorectomy in Diseases of the Nervous System," the following sentences occur:—"I make the 'uncompromising' sweep of excluding all cases from this operation, except where there is hopeless disease of the organs themselves; that is, I denounce the removal of the uterine appendages for any cause, neurotic condition, constitutional disturbance, or for any reason except for incurable disease. When thus diseased they are a continual injury to the system, and their removal is a lasting benefit. To remove healthy organs for any 'grave' condition of the general system should not be thought of, and cannot under any circumstances, eventuate in any good; for the normal action and physiological function of healthy organs will always increase the life force, and assist in restoring the system, in whatever way diseased, to a state of health."

Speaking of gyroma and varicose states of the nerve fibres in the uterus, she says:—"Nerve fibres of this kind, so placed, will cause pains aggravated at every menstrual period; or, if in connection with the vaso-motor system, may cause epileptic fits. Such imprisonment and pressure of nerve fibres must frequently take place in ovaries where there are gyroma, these hard, dense, firm, fibrous formations. I have, in some instances, counted as many as five gyroma in one section of the ovary. I believe that when we have made more thorough pathological research, most of the cases of severe local pain

accompanied by various neuroses, will be found in patients, who have gyroma."

In regard to the well-known clinical and pathological correlation of pelvic symptoms occurring out of all proportion to the gravity of the pathological appearances, she makes these important remarks:—"I presented microscopical slides of a number of ovaries, so affected, to the New York Pathological Society. I gave a specimen of one to Professor Prudden, then president of the Society, and sent a microscopical slide of the same ovary to Waldeyer, of Berlin. Both of these eminent pathologists, from a microscopical examination, returned a written diagnosis of 'carcinoma.'

"We cannot always tell by ocular appearance whether an ovary is diseased or not. Some of the most seriously diseased ovaries I have ever examined, and which were removed because the woman had untold suffering—in some instances the sufferings were so severe that their lives were almost compromised—yet, from external or naked eye appearances of the organs there were no special indications of disease. One such ovary I found, by microscopical examination, to be infiltrated with cancer; another had endothelioma so far advanced that it gave the patient the appearance of a far-advanced stage of phthisis."

And referring to oöphorectomy for *diseased* ovaries and tubes in the case of women so affected who are insane, or mentally afflicted, having spoken of some such cases, she says:—"I would not remove healthy or normal ovaries for dysmenorrhœa or any suffering in the regions of the ovaries; I would not remove them for epilepsy, nor for mental or neurotic disease, even if I had failed after long trials of tentative measures, and had the cordial, full and deliberate sanction of experienced practitioners, *unless* I believed the *appendages* themselves *were diseased*."

"Other cases, equally interesting, are given, all showing that pelvic disease may in some so disturb the nervous system as to cause insanity, and that removing the diseased organs will relieve the physical sufferings of the patients, and, in

many instances, restore them to mental health. Is there any reason why they should not be helped? I plead, in the interests of humanity, for these poor, overburdened women."

The matter of great clinical importance is to distinguish between the cases where the appendages *ought* to be removed, and those in which they *ought not*. Dr. Routh should remember that if there are cases of insanity after removal of the appendages, there are also many in which mania and other mental troubles have disappeared after the operation.

With regard to the climacteric, he had read with great care the part of the paper dealing with Dr. Savage's comments, but with all the respect due to him, he did not think that there was a true clinical and physiological analogy between the changes produced by the "climacteric" and those resulting from ovariectomy. He saw a patient only the other day whose appendages he had removed long since, and in all womanly traits and sexual affinity she was exactly the same as she had been before. This was a result which many others would corroborate. He did not frequently see women becoming inordinately fat, infantile in their intellect, or masculine in their appearance and sympathies, as the result of ovariectomy; others might have seen it, but he had not; rather the reverse.

As touching statistics, he had learnt long ago to pay very little attention to them; their fallacies were even proverbial. He had seen lately the recent statistics of an American surgeon, Charles P. Noble; there were sixty-nine cases of abdominal section, and two deaths. He was, however, told that 4 per cent. was the greatest mortality of those left alone. Could they presume to say that of all women left untreated for all the diseases for which abdominal section was done by this American surgeon, only 4 per cent. would have died? He denied that they could draw any such conclusion. Nor could any fair deductions be drawn from comparison of statistics of dead-house *post-mortem* records. He had been ten years demonstrating in the dissecting-room, and if he were to draw his conclusions from the recollections of his

experience there, his impression would be that very few operations on the appendages were justifiable; these were matters for the clinician rather than for the *post-mortem* registrar of an anatomical room to decide.

Further, it was most important that in every case the question should be determined on the individual circumstances of the patient. The risks of electricity, aspiration, massage, curetting, &c., the dangers of ruptured cysts, of torn adhesions, of perforation of intestines, should be compared with the probable certainty of operative cure, on the whole which resulted from taking the proper surgical steps and removing the disease. It was the falsest principle to acknowledge that as gynæcologists they were to refuse to be influenced by those fundamental surgical principles, by which all other surgeons must be guided. Mere sentiment, mere public opinion, should not be allowed to have an undue weight. At the same time, of course, they must be careful not to violate surgical principles by removing *healthy* appendages.

With regard to the question of organic secretions referred to by Dr. Routh, he would only say that spermin was apparently very analogous to lecithin, which was found in the brain and other parts of the body; and in dealing with such highly unstable products, it was most difficult to define with accuracy either their derivatives or their functions. Surely the presence of lecithin in an organ would never in itself be considered as sufficient reason for not removing the part if diseased.

Dr. BANTOCK felt it a difficult matter to discuss the long and discursive paper that they had before them, especially because there was so much with which he could not agree. He disagreed with the first sentence and with the last, and with nearly all that was between them. Thus the author says in the first paragraph: "Does the ovary secrete any other substance besides ova? *A priori* we should imagine it did." He would, himself, say "*A priori* I should imagine it does not."

Spermin was not a peculiarity of the ovary, because it was found in other organs ; there could therefore be nothing distinctive in it, and hence it would be a waste of time to discuss the subject.

Dr. Routh had quoted Gorzet's opinion that the juice extracted from the ovaries of animals had *no* effect either on male or female ; but he seemed to think that Mrs. Augusta Brown's conclusions were the more reliable ; but Mrs. Brown's experiments were made on women "affected with extreme debility, caused by age, insomnia, hysteria, uterine affections, &c.," and it was more than probable that all the patients were in some degree hysterical, and that the results were therefore unreliable. Dr. Routh had quoted certain opinions dating as far back as 1813, but of what value were such abstract opinions, formulated at a time when it was held that removal of the ovaries would certainly arrest menstruation ? It was now known that it did nothing of the sort. Again, Dr. Routh quoted Dr. Keith to the effect that insanity followed hysterectomy in 10 per cent. of the cases. He had himself done nearly 200 operations for fibroids of the uterus ; and in not one case was it followed by insanity, as long as there was no predisposition to it. Two cases in which there was insanity before the operation became temporarily worse ; but they got better after a short time. Dr. Routh also quoted Dr. Baldy, who had seen a case of melancholia after an operation for rectocele. What had that to do with operations on the sexual organs ? Surely if operations for piles, rectocele, &c., were followed by insanity in certain cases, this must be regarded as a purely accidental circumstance.

In the paper, deductions concerning operations had been drawn from mortality records. This was entirely fallacious. If no surgical operations were performed except such as were necessary to save life, the number of operations would be diminished to less than one-tenth of their present number. Nine-tenths were operations of expediency. How many would die of piles, if not operated upon ? If a woman was prevented by disease from earning her livelihood, and her life

was a burden to her, it was the duty of the surgeon to relieve her. It was ridiculous to talk of the mortality of a disease as the only factor to be considered ; it was suffering mainly which they had to relieve, as in the case of fibroids of the uterus, many of which did not lead to death. A woman who had been under his care for nine years, suffering from a fibroid, came to him, saying that she " had got to the end of her tether," and could not endure her suffering any longer ; she besought him to operate, and he felt that though her tumour did not directly threaten her life, it was his duty to give her the benefit of operation. And as regards methods of operation, he was of opinion that many of the so-called conservative operations, as performed by Polk and others, were simply " meddlesome surgery ;" many of the cases in which they separated adhesions of the appendages and took out pieces of the tubes, would have been just as well left alone ; whilst the effect of such operations in restoring lost functions was absolutely *nil*.

Mr. BOWREMAN JESSETT said : We have had placed before us a paper of the utmost importance by Dr. Routh, a paper, I venture to think, which is the outcome of his long and ripe experience, and which is likely to prove most beneficial. This paper must be treated with the respect due to a gentleman who has devoted his professional life to the study of diseases of women, and who has never allowed his sound judgment to be influenced by others when the interest of his patient was at stake.

I have perused Dr. Routh's paper most carefully, and I think I may say, like a lady's letter, the gist of the whole paper is in the postscript. He tells us that (1) the ovary, besides being concerned in ovulation, secretes especially, but in conjunction with other glands, a peculiar principle, spermin, which being reabsorbed into the blood, is most useful in its nutritive, oxygenating and recuperative power in maintaining the well-being of the female, and the want of which leads to bodily and mental debility. (Part No. I.)

In connection with this, Dr. Routh draws attention to the

researches of Brown-Séquard, who extracted a certain substance from the testicles of animals which, when sterilized, was injected subcutaneously into a human being. He claimed for this form of treatment a powerful recuperative remedy in certain cases of mental decay. Brown-Séquard experiments have been more recently tested and conditionally approved in this country and abroad. Dr. Gorzet, however, has observed that the juice extracted from the ovaries of female animals has no such effect, while Dr. Augusta Brown, who has apparently made extensive trials of both the testicular and ovarian juices, asserts that the results are identical, but the testicular is more powerful. Assuming this to be the case, and that both the ovary in women and the testicle in man secrete this "spermin," which is more or less necessary for the perfect balance of the nervous system and the blood in the human body, it behoves us to be very careful how we advise the removal of these "spermin" secreting glands, or we may find that in relieving our patient of one malady we precipitate her into a far worse plight.

If the conclusions arrived at by Dr. A. H. McFarland were correct, viz., "that it may be affirmed that more women, ten to one, have been consigned to hospitals for the insane (victims of needless or unskilful surgical operations) than have been restored to reason by the most commendable and skilful abdominal surgery," then, indeed, it became a question if we should be justified under any circumstances in removing the spermin-secreting glands, unless a remedy in some form of treatment can be devised to compensate for the loss to the system of this juice which is excreted by the ovary, and which is so important for the welfare of the individual. Surely, according to Brown-Sequard, Gorzet, Brown and Felkul, we have such a remedy in the "spermin," which is formed by the extraction of a certain principle "spermin" from the testicles in animals. This, then, should be administered in all cases in which the ovaries have been removed or in which symptoms of nervous depression occur, with the same certainty of restoring the equilibrium of the system as the administration of thyroid extract in cases of myxoedema.

If such is the case, then I think the chief argument for non-removal of the ovaries is overcome, and surgeons in the future can as conscientiously recommend the removal of the ovaries and tubes *when diseased* as hitherto, indeed, more so, because we are furnished with a remedy in the shape of "spermin," which, if administered properly, would counteract any ill effect of the removal of the spermin-secreting glands.

I will pass without remark conclusions Nos. 3 and 4, and will make a few remarks on the 5th and 6th conclusions.

(5) "Complete castration has been practised too frequently and often unnecessarily."

(6) "Preceded by abdominal section, the modes of operating more conservatively by *partial* castration and resection of tubes, or tubes and ovaries combined, and by ignipuncture of cysts in the latter, give much more satisfactory results with less mortality even in cases of pyo-salpinx and with no impairment of motherhood and power of child-bearing." (Part IV.)

I quite agree that complete castration a while ago was practised far too frequently. But that was at the time of a violent epidemic, just in the same way as a few years since a person had only to complain of a violent pain in the right iliac fossa, for some surgeons to at once diagnose typhlitis and insist that the appendix vermiformis must be removed, and if this was not sanctioned, and the patients got well, as they usually did, then it was said the time had arrived for operation to prevent a subsequent attack. Such was the height of the epidemic that museums were teeming with specimens. The fever has, however, run its course, and now this operation is only advised in exceptional cases. The castration of women has gone through the same form of epidemic, but now, thanks to men like the reader of this paper, Dr. Routh, the fever is abating. We must not, however, allow ourselves to drift into a state of apathy, and reach the other extreme, as I am sure in many cases the removal of the ovaries and tubes is the only remedy open to us to relieve many women from infinite suffering. Only a short time ago a patient was sent to me, who had been a hard working woman with a family ;

she had been perfectly incapacitated from work for nearly three years. She had been the inmate of two Metropolitan hospitals, and sent out in the same state as she was admitted. I removed her tubes and ovaries and now she is well. The ovaries really showed superficially but little sign of disease, but they were both cirrhotic and contained numerous small cysts. I venture to think this was a fit case to operate, although possibly I may be told, had I made an incision through the skin of the abdominal parietes and sewn it up I should have done as much good, or if I had opened the abdomen and handled the ovaries a cure would have been accomplished, or had I practised partial excision of the ovary, or ignipuncture of the cystic ovary, more satisfactory results would have been attained. I am satisfied with having removed them, and as the woman was over 40 years of age, my conscience is not affected by sterility.

The last conclusion arrived at by Dr. Routh is, I think, a most important one, as there can be no differing of opinion from it : "(7) The mode of treating the diseased appendages per vaginam and rectum, without abdominal section, by acting on the uterus itself, by electricity even in cases of gonorrhœal pyosalpinx and puncture by aspirator offers the greatest advantages, the mortality being almost *nil*, the recoveries durable, and the motherhood is left intact."

There can be no doubt that any irritation or inflammatory condition of the endometrium or even the cervix or os often give rise to great ovarian pain and irritation ; remove the cause of the irritation and it ceases.

Gentlemen, there is much more to be said on this paper, and much more that I should have liked to have said, but I have already occupied too much time, and I will conclude my remarks by thanking Dr. Routh for his very valuable paper and for having sounded the war note in endeavouring to save suffering women from being unnecessarily mutilated.

Dr. ROUTH, in reply, said he would have liked to have heard some of the speakers give their opinions with rather less heat ; but they might be excused on the ground that no doubt they felt strongly.

Spermin.—This was a physiological question, not to be decided on *à priori* grounds; and some of the speakers had evidently read some parts only of the paper, and not others; it was not either Gorzet or Brown-Séquard who said there was spermin in the ovaries; it was Poehl, the chemist. Dr. Heywood Smith had spoken of the absence of efferent ducts as contra-indicating the possibility of the ovary secreting; yet there were several notable instances in the body of ductless glands, conspicuously the thyroid and the supra-renal capsules. Who did not know that myxœdema resulted from disease of the former, and Addison's disease from the latter? Where were the efferent vessels of those glands? And if they could secrete a principle which had such results in the economy, why should not the same thing happen in the case of the ovaries? If a principle were found in more organs than one, that was no proof that its formation in any one organ was unimportant. Dr. Macnaughton Jones doubted Dr. Savage's view of the identity of natural and artificial menopause in their effects; but surely the views of such a man as Dr. Savage, one who stood in the first rank of alienist physicians, might safely be accepted.

If in a case of ovarian dropsy the ovary were not removed, the woman would die; but she would not die if the ovary were left in a case of tubal disease. He disclaimed what had been said of the way he had spoken of the sexual passion; it was not he who had spoken of this; he had but quoted from Champneys and from Thornton.

Much objection had been made to the word "castration;" it was a word used in France, in Germany, and in America; it was an old classical word, and by no means implied simply the removal of healthy appendages. At the same time, the word gave expression to facts which were sometimes ignored, and if only for that reason, was good.

He entirely repudiated the charge made by Dr. R. T. Smith, that he recommended the injection of orchitic or of any other fluids; on the contrary, he spoke directly against it, as any one might have seen who had taken the trouble to read his paper. Because he quoted an opinion, was that any

ground for the imputation that he held that opinion? Dr. Macnaughton Jones had quoted Mrs. Mary Dixon Jones; but what on the other side was said by Spencer Wells, by Thornton, and by Champneys? They were all on his side. What said Lawson Tait? Did not he speak of twenty-four ovaries he had seen in a bottle as being "absolutely free from guile"? At the same time, he never accused any man of taking out ovaries unnecessarily.

Mr. Jessett had found fault with some of his statements; Mr. Jessett stated that it was dangerous to aspirate; he (Dr. Routh) said it was not dangerous, if only antiseptic measures were adopted. He had done it repeatedly; and if, when he passed his finger into the vagina, he felt a soft fluctuating tumour, what was to prevent his aspirating? Since publishing his paper he had come across a paper by Hofmann in the *Wiener Med. Wochenschrift*, in which that writer stated that he had used the aspirator frequently, and with the best results. He maintained finally that the laws of physiology justified them in coming to the conclusion that there was a principle of use to the economy which was secreted by the ovary; he knew further, that the loss of this had a bad influence on the body, as shown by the fact that many women lose their normal mental balance at the menopause.

Dr. Bantock would have them consider only the suffering and not the mortality of their patients; it would be a good epigram to place, in the days to come, on his tomb, that he was the man who said, "Mortality is unimportant; relief of suffering is to be the surgeon's aim."

THE BRITISH GYNÆCOLOGICAL SOCIETY.

JUNE 14, 1894.

PROFESSOR SAVAGE, PRESIDENT, IN THE CHAIR.

PRESENT : 36 Fellows and Visitors.

SPECIMENS.

A STRANGULATED OVARIAN CYST WITH HÆMORRHAGE
INTO THE CYST CAVITY, FOLLOWED BY SUPPURATION.
By ROBERT O'CALLAGHAN, F.R.C.S.I.

The cyst was removed by operation, on February 14, 1894. The first symptoms of rotation occurred in March, 1893; she passed through a serious illness, with acute peritonitis, from which she at length recovered. In January, 1894, she had sudden and severe pain in the region of the tumour, with symptoms of internal hæmorrhage; and a fortnight after she was moved to Mr. O'Callaghan's private ward, having then an evening temperature of 103° . On opening the abdomen the cyst was found uniformly and firmly adherent to mesentery, omentum and intestines. The pedicle was twisted from left to right and quite strangulated; so that the cyst had probably lived by its strong adhesions. On opening the cyst it was found to be full of a porter-coloured fluid, with a pint of pus at its base. Its removal was very difficult, owing to the old adhesions. Temperature went normal after operation and never rose. Patient died upon the tenth day.

This was the second case of the kind that he had met with; and he gathered that this accident in ovarian life was one of very serious import. The hæmorrhage might be very

great, if not fatal, and must be followed by suppuration, if not dealt with at once by abdominal section.

He attributed the suppuration to the acute peritonitis which followed the primary strangulation.

TWO SPECIMENS OF FIBROMA OF THE OVARY.

By CHRISTOPHER MARTIN, F.R.C.S.

(1) The first specimen was removed eight months ago, at the Women's Hospital, Birmingham. The patient was 26 years of age; and the chief symptom was severe dysmenorrhœa. *Per vaginam* a hard mass could be felt on one side of the uterus. The abdomen being opened, the diseased left ovary was removed. The other ovary was in a condition of chronic inflammation, and was removed also, as it was thought that otherwise the dysmenorrhœa would not be relieved. On cutting open the first ovary, a hard fibrous tumour the size of a walnut was found. Evidently it was not a case of conversion of the ovarian stroma into fibrous tissue, but a true fibroma growing in the substance of the ovary, and having the ovarian stroma spread over it. It would have been possible in this case to have done a conservative operation and to have removed the growth by shelling it out, if the precise condition had been recognised at the time of operation.

(2) The second specimen was a large fibroma of the ovary, which was diagnosed as a uterine myoma, although the true condition might have been suspected from the ease with which the uterus could be moved apart from the tumour. The chief symptoms were those of pressure on surrounding organs, especially bladder and rectum. As the tumour was growing rapidly, its removal was advised. At the operation the mass was found to be ovarian. There was a good pedicle formed by the broad ligament. The Fallopian tube could be seen coursing over the surface. There were many large vessels in the pedicle, but the removal was nevertheless easy. The other ovary was healthy and was not removed. The ovarian tissue proper was found spread over the surface of

the growth in a thin sheet like a capsule. It was therefore an advanced stage of the condition of which the first specimen represented an early stage. When cut into, the tumour presented the ordinary appearance of a hard fibroma. A microscopic examination was made. No sarcomatous cells, nor muscular fibres were found, but simply ordinary fibrous tissue. The tumour weighed seven and three-quarter pounds. In both cases the patients made excellent recoveries.

LARGE UTERINE MYOMA, INVOLVING THE CERVIX ;
REMOVAL BY TOTAL EXTIRPATION. By Dr. J. A.
MANSELL-MOULLIN.

This specimen was removed this afternoon at the Hospital for Women, Soho, and I wish to express my indebtedness to Mr. Bowreman Jessett, who not only gave me the benefit of his counsel, but also assisted in the operation.

The patient was a single woman, 50 years of age. The tumour had been present five years, and had been growing more rapidly lately. There was a large, soft, projecting mass which presented at the vulva, and it was thought at first that this was the surface of the uterus itself, especially as a small hole existed at one part, into which a sound could be passed for a distance of three inches. Only after removal was the true condition recognised. The projecting mass was then found to be the myoma ; but so closely was it associated with the cervix all round, except just at one part, that it was practically the uterus itself, and separation would not have been possible. It was suggested in consultation that the best course would be to amputate the myoma, but I was very glad I did not attempt it ; the vagina being that of a single woman would not admit more than three fingers at most. Extra-peritoneal treatment was obviously out of the case, because the cervix was so extensively involved. Total extirpation was the only thing possible, and as the tumour was growing rapidly, removal was thought to be best for the patient. So far, the patient is progressing satisfactorily, and there is no reason to think she will do otherwise.

In answer to a question by Dr. Bantock as to the method of removal, Dr. Mansell-Moullin replied that the broad ligaments were first ligatured in two separate places, and the part between divided. A semi-lunar incision was then carried round the front of the tumour, above the bladder, which was stripped down. Some large vessels were then secured on each side, and a posterior incision was made, corresponding to the anterior one. The broad ligaments were secured with a large aneurysm needle in several places, and the tumour was then easily got away. The peritoneal cavity was closed by ten or twelve sutures passed between the anterior and posterior flaps, the ends of which were brought out through the vagina. The operation was a total extirpation, including the whole of the cervix.

A MULTILOCLAR OVARIAN TUMOUR, WITH TWISTED PEDICLE. By Dr. HODGSON.

Mrs. E. T., aged 32, married seven years; had had four children, eldest 6 years, youngest 2 months; no miscarriages. Complained of great pain in left iliac region for last two and a-half years, the last nine months of which the pain had been almost unbearable.

On May 12 I examined her and noticed that the whole of the abdomen and lower part of her back were deeply stained dark brown. Her temperature was $102^{\circ}6$; pulse 150. In the left iliac region was a tumour apparently the size of one's fist, extremely tender to touch, with no perceptible fluctuation. The uterus was enlarged and engorged, and there was profuse leucorrhœa. There was no swelling in the posterior wall of the vagina.

I kept her in bed, freely depleted the os, and inserted glycerine plugs, and gave her some medicine. The temperature soon fell to between 99° and 100° , but never became normal until two days before the operation, when the pain, which had been severe, almost left her.

On the 7th instant she was put under chloroform, and

I made a median incision three and a-half inches long. It then became evident that there was fluid in the tumour, which was firmly and extensively adherent to the abdominal wall, and its upper border was in close proximity to the transverse colon, which was drawn low down in the abdomen. Finding the adhesions were very firm, and thinking it probable that intestine might be close behind, I deemed it advisable to make an incision in the cyst and evacuate its contents, which I did, with the result that about a pint and a-half of dirty brown fluid and a small quantity of gelatinous matter were removed. Then, breaking down the adhesions, I found the tumour to be adherent to the abdominal wall, to six inches of the descending colon, and enveloped in the great omentum to which it was firmly adherent. It was a multi-locular left ovarian tumour. It was necessary to remove nearly the whole of the great omentum. The pedicle was twisted, one and a-quarter inch broad, and very short. The patient passed urine voluntarily three hours after the operation, and has had no bad symptoms, and is now convalescent.

ON INTRA-PERITONEAL HÆMATOCELE FORMING A DEFINITE TUMOUR: THE RELATION OF THIS TO UNRUPTURED TUBAL PREGNANCY ("TUBAL ABORTION"). By JOHN W. TAYLOR, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women; Vice-President of the British Gynæcological Society, &c.

I.—As my experience of ectopic gestation increases, and I more frequently operate on cases at an early stage (when exact relations are easier to understand), I am struck by the fact that, anatomically speaking, an unruptured tubal pregnancy is by no means a rare thing; that even when much hæmorrhage has occurred within the abdomen, and a tumour of considerable size has developed, it may often be found that the pregnancy itself is still within the unruptured Fallopian tube, and the bleeding has taken place from the fimbriated extremity of the tube. In other words, cases of so-called

"tubal abortion" are frequently met with in which no true abortion has taken place, in which there is no extrusion or attempted extrusion of the pregnancy or mole, but a hæmorrhage, slowly persistent or intermittent, is taking place from the distal end of the tube.

And such cases are not only of intrinsic value as examples of ectopic gestation, but the intra-peritoneal hæmorrhage to which they give rise is worthy of some independent study.

II.—When a blood vessel suddenly ruptures into the peritoneal cavity, it is well known that any clotting or localisation of the hæmorrhage is very imperfect or absent, and that the hæmorrhage (unless stopped by surgical means) is apt to go on until the patient dies.

So characteristic and striking is this peculiarity of sudden hæmorrhage into the peritoneum that some surgeons have appeared to question the fact of intra-peritoneal hæmatocele forming a definite tumour, and have taught that hæmorrhage into the peritoneal cavity is never localised or bounded, and that a bleeding which possesses such characteristics must be within the layers of the broad ligament, and therefore outside the peritoneum.

Now, however valuable such teaching may be as a guide to practice—and few will deny that for the majority of cases it contains a clear and definite explanation which is easy to understand, and will usually lead to right treatment—it is not altogether true; and even a fairly copious hæmorrhage may become limited within the cavity of the peritoneum, and form an intra-peritoneal hæmatocele with definite tumour.

A case which occurred quite early in my practice taught me this.

A patient on whom I operated for parovarian cyst (by ligature and removal) had hæmorrhage from the pedicle following the operation, and a large quantity of blood collected in the pelvis and lower abdomen. The condition was not clearly recognised at the time, and the incision wound was not reopened. Some peritonitis followed, and the blood became localised, the upper limit of the effusion being defined

by an abrupt line stretching across the abdomen midway between the umbilicus and pubes, the lower limit being formed by the pouch of Douglas, which was distended.

As the peritonitis subsided and the distension of the general abdominal cavity above the hæmatocele went down, so the tension of the hæmatocele and lower cavity increased, showing that the two were practically separated, and that the contents of the hæmatocele were increased either by additional hæmorrhage or by serous effusion.

The hæmatocele was tapped from the vagina, and several ounces of fluid blood were removed. Later on, the remainder of the blood and blood-clot decomposed, tension increased with fever, and I opened the pouch of Douglas freely from below, passed my finger into the abdomen behind the uterus, turned out the decomposing blood clot, and found the hæmatocele to be strictly intra-peritoneal and localised.

Such a case as this is exceptional, but is quite sufficient to establish that hæmorrhage within the cavity of the peritoneum (on its endothelial surface), if not directly fatal, may result in a true limited intra-peritoneal hæmatocele, surgically isolated by secondary changes from the rest of the peritoneal cavity.

Cases somewhat analogous to the one I have just reported are occasionally met with as the result of a tubal pregnancy which has ruptured with a moderate degree of hæmorrhage, in which the pouch of Douglas itself becomes distended with blood, and the increased tension of this pouch shows that its contents are not free, but the pouch must be cut off from the general cavity of the peritoneum.

These cases may be treated by vaginal incision, and twice I have operated in this way (rather from necessity than choice), washing out large quantities of blood, blood-clot, and placental *débris* from the lower part of the abdominal cavity. In each case the patient made an easy and good recovery.

But if the formation of a definite intra-peritoneal hæmatocele, as the result of ligature-slipping or rupture, is excep-

tional, and it undoubtedly is, it is quite otherwise with the slower hæmorrhage or blood-drip, which takes place from an open Fallopian tube when a pregnancy or mole lies within it. This is a comparatively common cause of intra-peritoneal hæmatocele with definite tumour. So far as I know, I believe it to be the chief one, and that most cases of defined hæmatocele within the peritoneum may be traced to an unruptured tubal pregnancy.

Such intra-peritoneal hæmatocèles are found at operation under various conditions :

(1) Sometimes there is simply a mass of coagulum without definite form or consistence, a large clot which is easily scooped away by the fingers, or washed out by water.

(2) At other times there may be a clot of definite form and some consistence which, without any covering, is adherent to the peritoneal surface with which it is in contact ; a clot which, on removal, leaves a roughened surface of the peritoneum that does not recover its smoothness after sponging and washing.

(3) At other times, again, when some peritonitis has taken place as the result of the hæmorrhage, it will be found that extensive adhesions have occurred between the Fallopian tube and neighbouring organs, often uniting the open mouth of the Fallopian tube with the surface of the ovary, and that a tubo-ovarian tumour has formed, the blood distending the new adhesions. This false "tubo-ovarian" cyst is quite similar in its formation to the tubo-ovarian abscess which occurs so often in acute gonorrhœal salpingitis, and is, I believe, a more common result of tubal inflammation than the closure of the tube itself by infolding of the fimbriæ, as described by Mr. Bland Sutton. Occasionally, a blood-cyst of this kind may be more extensive (as in one of the specimens to be described in my paper). In this case the tumour is often rather tubo-intestinal than tubo-ovarian, and the omentum assists largely in its isolation from the general cavity of the peritoneum. The main anatomical distinction between the false tubo-ovarian cyst of

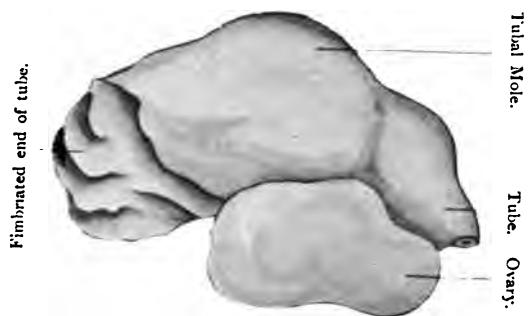


FIG. 1.

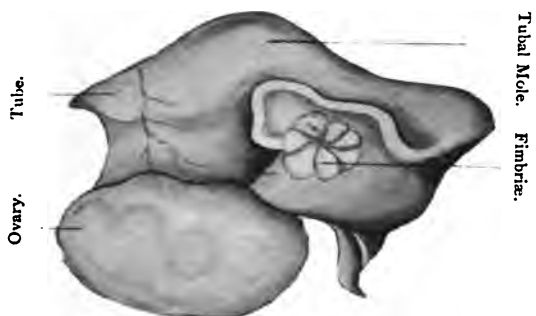


FIG. 2.

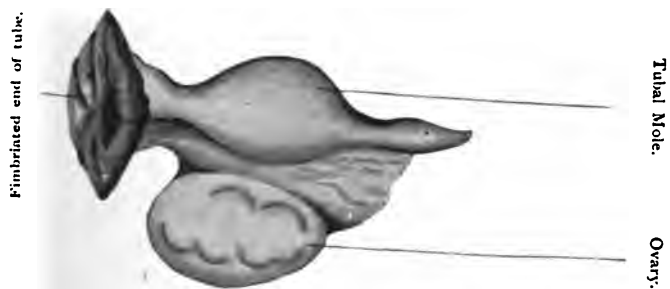


FIG. 3.



FIG. 4.

tubal pregnancy and that of pyosalpinx, is that in the former what may be termed a new formation of tissue helps to make the cyst and enclose the blood, whereas in the latter (pyosalpinx) the walls of the cyst are formed entirely by distended tube and adhesions. The reasons for this will be considered later.

(4) Lastly, there is yet another condition under which the hæmatocele may be found, a condition which may be regarded as the extreme development of the series I have described, a condition which, so far as I know, has not as yet been recognised. In this a complete cyst-wall is formed for the blood clot, quite independent of the tube and ovary or any other pelvic organ. The complete cyst-wall forms a kind of bag or jug, and within the neck of this globose pitcher, so to speak, is the fimbriated end of the Fallopian tube, and the latter may be lightly drawn out from its enclosing sheath, showing its fimbriated end uninjured.

III.—Examples of these conditions I purpose to bring briefly before your notice, confining myself to such details of each case as are strictly pertinent to my subject and illustrating my remarks by sketches.

(1) The first two cases are examples of unruptured tubal pregnancy (with hæmorrhage from the abdominal ostium of the tube) in which the clot was practically unaltered at the time of operation. These, therefore, belong to the first group or division of my classification, and the parts (exclusive of the blood-clot) are illustrated in figs. 1 and 2.

My operation notes of the first case are as follows:—"A large clot was found in the pelvis, more or less limited by light adhesions, but not possessing any distinct wall other than that formed by the usual pelvic contents. The clot was cleared away by hand and by washing out the pelvis with warm water. The clot was found to be in immediate relation with the open fimbriated end of the left Fallopian tube, which contains an unruptured tubal pregnancy or mole about the size of a walnut."

The second case was very similar, but the adhesions (as

may be gathered from the drawing) were somewhat more advanced.

In both cases the clot was easily removed at the time of operation ; the site of the pregnancy is plainly visible toward the uterine end of the tube, and both tubes are unbroken.

In the first case irregular hæmorrhage and pain had existed for seven weeks ; in the second for five weeks. There was no preceding amenorrhœa. In both a tubal tumour was plainly felt on vaginal examination. The first case was diagnosed as tubal only ; in the second case the diagnosis was made of tubal pregnancy.

(2) Of my second division I have only one specimen to show, and the condition must, I think, be a rare one. The tube and ovary are represented in fig. 3, and the widely-expanded plaque-like condition of the fimbriated end of the tube at once attracts attention. This hypertrophied and flattened-out portion of the tube was largely covering a rather firm clot of blood in the pouch of Douglas. Beyond this the clot had no covering or envelope of adhesion, but all throughout its mass septa of stringy and strong adhesions passed between the tube and the pelvic peritoneum. I call the adhesions strong because although they could be easily broken down (and were so treated for the removal of the clot), all the tags remained attached to (or growing from) the peritoneum of the pouch of Douglas, and I found it impossible to remove them. Neither direct detachment with the fingers, nor washing out of the pelvis, nor repeated sponging, was sufficient to restore the smoothness of the peritoneal surface, and at the close of the operation the site of the hæmatocele was still marked by the firmly attached septa which had passed in all directions through the substance of the clot.

The mole of pregnancy is in the middle third of the tube ; the tube is not broken. Irregular hæmorrhage and pain had existed for eight weeks. There was no preceding amenorrhœa. On vaginal examination a tumour was plainly felt, which was diagnosed as tubal.

(3) In my third group will, I think, be found most of the

cases of unruptured tubal pregnancy at the time of operation. Some peritonitis follows the hæmorrhage from the abdominal ostium, and more or less extensive adhesions occur limiting and perhaps enclosing the hæmatocele.

Three specimens figured in drawings 4 to 8 will serve to illustrate this portion of my subject. The first of the three (figs. 4 and 5) might be easily taken for an example of ruptured tubal pregnancy, the mass of the pregnancy, as evidenced by blood-clot and recent hæmorrhage, being apparently confined to the outer part of the tube. This appeared to have ruptured before operation, and the latter was undertaken when symptoms of internal hæmorrhage were serious, and a rounded swelling had formed in the lower part of the abdomen, reaching half-way to the umbilicus. Even after removal, the large tumour (fig. 4) with broken coverings connected with the right Fallopian tube seemed fairly typical of a ruptured tubal pregnancy, and one, moreover, which at the time of operation seemed to have partially invaded the peritoneum of the broad ligament. At any rate, I regarded it as such until I came to examine the specimen more closely.

Then, on making a longitudinal section of the tube (which, as depicted in fig. 5, may be advantageously compared with the preceding illustration of the external appearance of the specimen), I found that the tube was really unruptured, a mole of pregnancy occupied a portion of the tube at some little distance from the abdominal ostium; the distal part of the tube, though rather dilated, was normal in appearance, and the large tumour, abdominal as well as pelvic, connected with the outer end of the tube, was entirely caused by hæmorrhage from the fimbriated end of the tube. In short, the tumour was a hæmatocele which had formed for itself a large amount of covering during the earlier stage in the pelvis, a covering which failed, however, toward the abdomen, where the hæmorrhage was only limited by lightly adhering intestine and omentum.

In this case irregular hæmorrhage had existed for nine

weeks without any preceding amenorrhœa. On bi-manual examination the abdominal tumour was found to be connected with a mass behind the uterus, tubal in character, fixing the uterus, and pushing it forwards to the pubes. The diagnosis was made of ruptured tubal pregnancy.

My fifth specimen represents a case whose leading features, both clinical and pathological, are exceedingly similar to the case just described, but the hæmatocele was less extensive. The operation was immediately necessitated on account of internal hæmorrhage, and on opening the abdomen the pelvis was found to be full of dark fluid blood. A tumour about the size of an orange was found attached to the right Fallopian tube, and, with the exception of light adhesions to the pelvic wall, appeared, on touch, to be definitely bounded, and distinct from the other pelvic contents. (This is shown in fig. 6, and the figure is therefore a record of touch rather than of sight.)

During removal the cyst burst, as almost always happens in these cases, and the exact appearance of the specimen after this had taken place (with tags of cyst-wall hanging from the end of the Fallopian tube), is shown in the following drawing (fig. 7). Whether true ovarian tissue enters into the composition of the cyst wall in this specimen it is almost impossible to demonstrate, but I think the hæmatocele is essentially tubo-ovarian. The mole of pregnancy is in the uterine end of the tube. The tube is unbroken, the fimbriated end of the tube opens directly into the sac of the hæmatocele.

In this case there was a history of irregular hæmorrhage for nine weeks following an interval of nearly five weeks without any loss. A tubal tumour was to be felt on vaginal examination. The main symptoms before operation were those of hæmorrhage and general peritonitis. As in the previous case, the diagnosis was made of ruptured tubal pregnancy.

The last specimen of this group is one which may be said to occupy an intermediate position between the tubal hæmatoceles with peritonitic adhesions, and those of my next and



Tubal Mole. Hematocoele.

FIG. 5.



Hematocoele.

Tubal Mole.

FIG. 6.



Fimbriated end of tube.

Broken sac of hematocoele.

Tubal Mole.

FIG. 7.



Uterine end of tube. Tubal Mole.

Mouth or neck of sac of hematocoele.

FIG. 8.

final group, in which the hæmatocele appears to form for itself a complete and independent sac.

This gives the specimen additional interest, and, in so far as one may trace in this the partial formation of a blood sac independent of the tube, with exactly the same relations to the fimbriated end of the tube as in the case to follow it, the connecting link is one of real value, and I argue from it that the special conditions met with in my final group are by no means isolated or phenomenal, but will be found more or less repeated in either past or future specimens.

In this specimen, as seen in drawing No. 8, we have a mole of pregnancy in the unruptured tube, and a complete tubo-ovarian cyst, which was full of fluid blood. Before removal, the mouth of this cyst was lightly fixed around the outside of the dilated and open abdominal end of the tube. Delicately and exactly fitting (the mouth of the sac outside, over the end of the tube within), though both were full of blood there was no trace in the abdomen of any hæmorrhage or leaking, and it was not until, by traction on the tube, the latter was withdrawn from its enclosing sheath, that the true nature of the cyst was made evident.

On referring to the history of the case from which this specimen was taken, I find there was a period of amenorrhœa for five weeks, followed by three weeks of irregular hæmorrhage. During the whole of this time (two months) the patient complained of pain. On examination a tubal tumour was found behind the uterus, and the diagnosis was made of tubal pregnancy.

(4) My final class or division is represented by only one specimen, but this, as I have already pointed out, derives additional force from possessing many features in common with the case I have just described.

The point which distinguishes this specimen is the presence of an independent cyst wall encapsulating the blood.

On operation I found, as I had expected, a large, thin-walled cyst occupying all the available pelvic space, and distending the pouch of Douglas.

On tracing the cyst upwards (which was only moderately adherent to the pelvic peritoneum), I found that it was continuous with the enlarged and distended Fallopian tube of the right side. The condition I found at this stage I have endeavoured to represent in the 9th drawing or diagram.

I was able to remove the sac without any loss of substance, but on separating the adhesions to the pouch of Douglas a tear was made in it, and on holding the tube up I found I was pulling the fimbriated end of the tube out of the neck or mouth of the sac. Both tube and sac were filled with dark, brownish-black semi-fluid blood.

An exact drawing of the parts, as seen some days after removal and preservation in spirit, is shown in fig. 10. The Fallopian tube and meso-salpinx, and the corresponding ovary are absolutely normal, save for the enlargement and distension of the tube (which has, of course, considerably diminished since the date of operation). The collapsed cyst (a difficult subject, the drawing of which, I fear, is only very moderately, if at all, successful), I have endeavoured to show on the right-hand corner, above the drawing of the tube and ovary.

It will suffice, I hope, (*a*) to demonstrate the absolute independence of the cyst from either tube or ovary, and (*b*) to show the general character and shape of that slightly-contracted portion of the cyst, which I have termed its "neck" or "mouth." This accurately fitted, and was lightly adherent to the outer surface of the fimbriated end of the tube.

Until the separation of tube and cyst, the patient's abdomen and pelvis, both in this and the preceding case, were perfectly clean and free from visible blood. I cannot find, on examination of the specimen, any clear or certain signs of pregnancy, and although I am inclined to believe that an early tubal gestation was the cause of the hæmorrhage in this case, as well as in all the others, the evidence regarding this must be considered as inconclusive. The patient from whom the specimen was taken had a chronic

history of pelvic pain. She had suffered from irregular metrorrhagia for upwards of three months, with no preceding amenorrhœa. On bi-manual examination a fixed tender thin-walled cyst could be easily felt, which did not alter during some weeks of regular observation. The diagnosis was made of ovarian cystoma.

IV.—Intra-peritoneal hæmorrhage, then, may result in (at least) four conditions, which I have ventured to name as—

- (1) Simple clotting.
- (2) Clotting with septal adhesions.
- (3) Clotting with peripheral adhesions.
- (4) Encapsulation.

The first three of these may be explained to some extent by the recognised phenomena of coagulation and the so-called organisation of thrombus, though the septal adhesions are difficult to account for. It has occurred to me that these and the expanded condition of the end of the tube also might possibly be set down to successive hæmorrhages of definite duration, each hæmorrhage being marked by separate adhesions and a further stretching of the tube.

The fourth condition, that of encapsulation, is a very curious one, although now I have seen its full development I fancy I can trace signs of it in many other specimens.

It seems to me that the blood itself must be the real source of its capsule in this condition. The fimbriated end of the bleeding tube lies buried in the blood which has escaped around it. By some means or other, perhaps by simple peripheral deposition of fibrin with entanglement of leucocytes, a real or pseudo-tissue is formed around the hæmorrhage, resulting in the encapsulated hæmatocele. Only in this way I think can we explain the complete isolation and independence of the cyst (?) and its special relation to the end of the Fallopian tube.

But why a hæmorrhage should sometimes terminate in this way I cannot tell. The problem is one of some importance on account of its bearing on operative details and on the reabsorption of blood.

Sometimes an intra-peritoneal hæmatocele is rapidly absorbed. When drained by a glass tube through an abdominal or vaginal incision, as in two cases mentioned at the beginning of my paper, the rapidity with which a large sized tumour of this kind disappears may be almost magical.

In other cases when the hæmorrhage which was the source of intra-peritoneal hæmatocele finally ceases, although no operation be performed, the blood-tumour within the abdomen will, as a rule, steadily decrease in size until in five or six weeks there is scarcely a trace of the former tumour.

But it is quite different when the blood is locked up in either a natural or an artificial cavity. When shut up, for example, in the unbroken Fallopian tube, the resulting hæmato-salpinx may undergo no further alteration in shape or size for months or even years.

Changes take place in the contained blood-clot, it becomes lighter in colour, assuming a distinctly brownish tint, the watery portion may be more or less absorbed, and the resulting blood may be found dry and crumbling on the surface. Changes, too, occur in the coverings of the tumour; these seem to participate in the alterations of the blood clot; if this be confined within the distended tube the latter becomes brittle and rotten, easily tearing on the most tender and careful manipulation, but the hæmatocele as a tumour, whether as regards signs or symptoms, may persist for an indefinite time within the pelvis and abdomen until removed by operation.

Specimens illustrating this are figured in my final drawings (figs. 11 and 12). The one is a tubal pregnancy or mole of four months' duration, in which the tube was unruptured, but in this case the mole and its resulting hæmorrhage had been confined within the tube throughout, and no free bleeding had taken place into the abdomen. The tumour was watched as a stationary mass for upwards of a month. In the other case a pelvic tumour had been recognised and watched for upwards of two years. Finally, I operated and removed the large hæmato-salpinx or tubo-ovarian hæma-



FIG. 9.

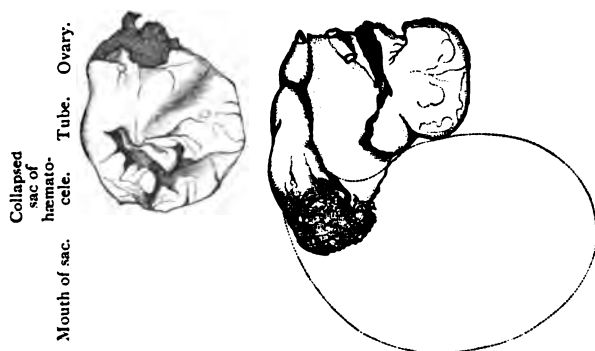


FIG. 10.

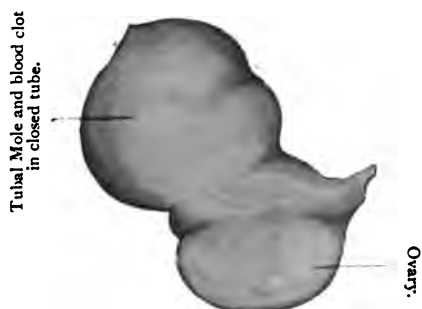


FIG. 11.

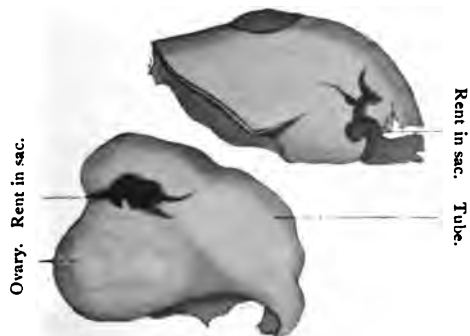


FIG. 12.

tocele, both sides of which are shown in the drawings on fig. 12.

In encapsulated hæmatocele the result is slightly different. The tumour may possibly be quite as stationary and quiescent. but the blood within the capsule remains in a more or less fluid condition, and, as a surgical point, it is difficult to extract this kind of tumour without soiling the peritoneum.

V.—There are one or two subsidiary questions which have forced themselves on my attention during the collection and arrangement of the material for these pages.

One has reference to the discrepancy which appears to exist between the opinions of skilled observers as to the possibility of diagnosing tubal pregnancy before rupture has taken place

Mr. Lawson Tait, our leading authority on the subject of tubal pregnancy, has maintained not so much that the diagnosis before rupture is impossible, but that, as a matter of fact, it never does take place except by the merest accident, since tubal pregnancy before rupture is absolutely without any symptoms leading to the examination of the patient. Others, including myself, have pointed to our specimens of unruptured tubal pregnancies, several of which we have diagnosed correctly before we operated on our patients. A careful consideration of the cases I have described will show that the difference is, after all, superficial and easily to be understood. In only one case (fig. 11) can I point to an unruptured tube, the seat of a tubal pregnancy, which is absolutely without any intra-peritoneal hæmorrhage, and yet was diagnosed as a tubal pregnancy before the operation.

In all my other cases of tubal pregnancy hæmorrhage had taken place from the abdominal ostium, and although each tube was anatomically whole and free from injury, the bleeding from the fimbriated end was (surgically) equivalent to rupture, and evidently caused the suffering which brought the patient to me.

Another question of some interest is whether a differential diagnosis is possible between ruptured tubal pregnancy and

this bleeding from a mole in the unruptured tube. I daresay it will have been noticed that after my description of each specimen, without attempting to give details of the case, I have added a few notes regarding the menstrual history of the patient from whom the specimen was taken. I have done this with a purpose, because I found that in every one of these cases there was but little or no amenorrhœa preceding the irregular loss which is so commonly associated with all cases of tubal pregnancy.

A few years ago, when trying to formulate easy rules for the diagnosis of extra-uterine pregnancy, I wrote (*Lancet*, 1892): "Where one finds a history of amenorrhœa, followed by irregular loss, together with signs of a tubal tumour, in a woman of child-bearing age who has been previously healthy, there is every reason to suspect that extra-uterine pregnancy has begun." Where the other signs and qualifications are present, but the history of amenorrhœa is wanting, the diagnostic probability lies in favour of so-called "tubal abortion."

And the reason of this seems obvious. A small mole of pregnancy in an otherwise pervious tube must cause some hæmorrhage in both directions at a very early stage. The more vital pregnancy which seizes the tube for its site and closes it completely, will check the menstrual period as in normal pregnancy until at or about the time of rupture of the tube.

Finally, there is the question of nomenclature for this condition. "Tubal abortion," like any other name, if generally taken to mean a definite condition, may prove not only of practical use, but stronger than any argument which may be raised against it. In the hands of Mr. Bland Sutton there can be little doubt that the term has done much to spread knowledge and increase interest. But I cannot find either in my own or any other cases the slightest evidence of extrusion of the mole. In the specimens described to-night every mole is firmly fixed in the tube, and as the uterine condition at all analogous to this is termed an "incomplete abortion," I fail to see that the name of "tubal abortion" is either happy or exact. Again, in one of my specimens of tubal pregnancy

with early rupture of the tube and profuse hæmorrhage into the abdomen, the pregnancy appears to be quite as much "molar" or abortive in character as in those I have described to-night—the difference being simply that in this case the tube was impervious to the bleeding, and as far as I can make out, the tube was broken from blood distension rather than from the growth of the pregnancy. Yet no one would call this, I presume, a case of tubal abortion. Or again, the specimen drawn in fig. 11, containing a large mole of pregnancy with blood clot surrounding it within a closed Fallopian tube, is quite as much an abortive pregnancy as those described under the name of tubal abortion, but one could not call it by the latter name. Is there any necessity for the term? Cannot we recognise (without this) that tubal pregnancy may cause:

- (1) Hæmorrhage from the open abdominal orifice without rupture of the tube;
- (2) Rupture of the tube with secondary changes according to the site of rupture; or (rarely)
- (3) The formation of a tumour with neither rupture nor external hæmorrhage, as in the specimen depicted in fig. 11?

TABLE.

Tubal pregnancy may cause

1. Hæmorrhage from the abdominal ostium, with formation of defined <i>intra-peritoneal hæmatocele</i> .		<ol style="list-style-type: none"> 1. By simple clotting. 2. Clotting with septal adhesions. 3. Clotting with peripheral adhesions. 4. Encapsulation.
2. Rupture of tube into	{	<ol style="list-style-type: none"> 1. Abdomen. <ol style="list-style-type: none"> 1. <i>With diffuse hæmorrhage into the abdomen.</i> 2. With formation of defined intra-peritoneal hæmatocele (rarely). 3. With escape of foetus, forming so-called abdominal pregnancy. 2. Broad ligament. <ol style="list-style-type: none"> 1. With formation of <i>extra-peritoneal</i> or <i>broad ligament hæmatocele</i>. 2. With development of so-called broad ligament pregnancy.
3. Closure of tube and formation of tumour of indefinite duration (possible development in tube?)		

I have given a table of classification which I hope will put in the clearest possible manner the outlines of what I believe to be the various consequences of tubal pregnancy. The usual hæmatoceles are in italics, and their position in the table may be seen at a glance.

The PRESIDENT said that the Society was greatly indebted to Mr. Taylor for his most valuable paper. A great deal of the teaching on the subject of late years had been very indefinite, and Mr. Taylor had especially set in order the two subjects of tubal abortion and of hæmatocele. It was formerly thought that extra-peritoneal hæmorrhage was much more common than it actually is. He would invite the fellows and visitors to discuss this interesting subject. He was very pleased to see Dr. Cullingworth there, who was known to have studied the matter with care, and hoped he would give them the benefit of his views.

Dr. CULLINGWORTH said that he felt much honoured by the President's invitation to him to take part in the discussion. He could cordially support the President's remarks in praise of Mr. Taylor's paper, for he considered it a valuable contribution to a difficult and important subject. At the present time they were just beginning to feel their way in the recognition of the more common sources of intra-pelvic hæmatocele. As regards nomenclature, there was no doubt still some difference of opinion. Mr. Taylor had criticised Bland Sutton's expression "tubal abortion," and had given reasons for objecting to it; but they were now accustomed to attach a definite meaning to the phrase, and he thought it would be unwise hurriedly to discard it. Concerning diagnosis, he quite agreed with Mr. Taylor that hæmatocele and tubal abortion were diagnosable; indeed, the question was beyond doubt, inasmuch as these conditions were continually being diagnosed, and the diagnosis was being subsequently verified by operation. Mr. Taylor had kindly sent him an outline of his paper, and he had consequently taken the opportunity of looking up his own cases of tubal abortion and of pelvic hæmatocele. He found that of ten cases of intra-

pelvic hæmatocele on which he had operated, and in which the diagnosis was therefore beyond doubt, eight were due to the pouring out of blood from the open end of an unruptured hæmato-salpinx, due, as he believed, to tubal gestation. This was the class of cases hitherto designated as "tubal abortion," and which the author now proposed to call "tubal mole, with hæmorrhage from the open end of the tube." In only one of the ten cases was hæmorrhage due to rupture of a pregnant tube. This experience confirmed Taylor's views and was important, because even the most enlightened modern text-books, in which the nebulous views formerly held as to the etiology of pelvic hæmatocele had been set aside, taught that the most common cause was rupture of a tubal gestation sac. This teaching was in the direction of the truth, but it was not the truth itself. He believed, with Mr. Taylor, that the most frequent cause of hæmatocele was, not rupture, but hæmorrhage from the open end of a pregnant tube. The tenth case of his series was also one of tubal gestation. In this case the hæmorrhage had not taken place from the pregnant tube at all, but from a hæmorrhagic broad ligament cyst on the opposite side. At the operation the clot was found hanging out from a rent in the wall of this cyst. Of course this was one of those curious coincidences that one was not likely to meet with again. His view of the case was that the cyst had shared in the general pelvic hyperæmia due to the pregnancy, and that some veins in the cyst-wall had given way. His diagnosis was, tubal gestation with hæmorrhage from the open end of the tube; the diagnosis as to the existence of tubal gestation and of hæmorrhage was correct; his supposition that the two conditions were directly related was, however, incorrect. So far, then, his experience coincided with Mr. Taylor's.

Of cases of rupture of the tube in early tubal gestation, he had had six; in four of them the blood was diffused in the peritoneal cavity; one had ruptured into the broad ligament forming a hæmatoma of the broad ligament, or as some preferred

to call it, an extra-peritoneal hæmatocele; whilst the other, as already stated, resulted in an intra-peritoneal hæmatocele; so that hæmatocele was much more likely to be due to the condition that Mr. Taylor had been describing, than to rupture of the tube. There were other points connected with this question, regarding which he had prepared statistics from his own cases; but as they were not directly related to the subject of the paper, he would not now deal with them.

Mr. Taylor's grouping of cases was very interesting; but he thought Mr. Taylor would be the first to allow that such groups were more useful for clinical diagnosis than as marking really different conditions; *e.g.*, groups one to four were probably all variations of the same condition. He had met with one case on which Mr. Taylor's explanations seemed to shed light. The capsule enclosing the blood clot was in that case so distinct that it was difficult to account for its production; but he now thought the case was an example of those in group four, viz., the encapsuled hæmatocèles in which the capsule was probably due to the blood-clot itself; but to satisfy himself on this point, he would have to look up the notes again and see if there had been time for such a capsule to be formed. In the last volume of the *St. Thomas' Hospital Reports*, there was a coloured drawing of a tube from a case of hæmatocele, in which a thick fibrous coating, derived from the hæmatocele, surrounded the tube like a capsule (the drawing in question was here handed to the President.) All those who were present at the operation were disposed to think that this was the thickened peritoneum; but the true condition was represented in the drawing, where part of this coat had been torn away, to show the smooth peritoneum beneath it. He mentioned this case to confirm Mr. Taylor's view that a capsule could be formed from the blood-clot itself.

Mr. Taylor had given them, in his paper, much food for reflection; and he felt it would be an impertinence on his part to make any detailed criticism of the cases related; he hoped to read them over carefully when the paper appeared in the journal. In conclusion, he could only again express his

obligation to the President for his kind invitation to him to speak ; for he was there only as a visitor, and had come rather with the purpose of acquiring information on the subject of the paper, than of speaking upon it.

Dr. BANTOCK said he was gratified to see so many country Fellows at the meeting, and he hoped that they would join in the discussion. He agreed with Dr. Cullingworth's closing remarks, and felt that it was very difficult to take in and adequately discuss the whole of such a paper. The main criticism he would make was not one of dissent with Mr. Taylor's views of ectopic gestation ; but he was inclined to take exception to the terminology. He thought it was a mistake to use the term "hæmatocele;" the essential condition was the ectopic gestation. Mr. Taylor and he were quite opposed on the subject of intra-peritoneal hæmatocele ; for his own part, he did not think there was such a thing, for the hæmorrhage was never bounded by that smooth surface which was found, for example, on an ovarian or other tumour ; and just as it was impossible, in a case of agglutination of the viscera, to define any definite limits of the mass, so it was with the blood poured out in these cases. He thought that "intra-peritoneal effusion" would be a much better name for it. He had been on the look out for years for a true case of intra-peritoneal hæmatocele, but had not found one. When a mass was found in the vagina, and could be defined bi-manually, and clots were evacuated by vaginal incision, it was easy to imagine that the blood was in the peritoneal cavity ; but this could not be proved except by abdominal section. Last year he had operated on a case which was thought to be an ovarian tumour ; on opening the abdomen it was found to be true extra-peritoneal hæmatocele, which he was able to scoop out and drain.

It was now about fourteen or fifteen years ago that, having had his attention directed to the matter by reading Bernutz and Goupil's work, he had written a paper, which was, however, lost when nearly completed, and he had not had the courage to write it over again. In Bernutz and Goupil's cases,

where the hæmorrhage was intra-peritoneal, the mass was always ill-defined. Some time ago, in the out-patient department, he saw a patient with an ill-defined swelling reaching to the pubes; a needle was inserted into the vagina, and only a small quantity of blood came away. A week after the patient slipped and fell, and was taken with serious symptoms; he was called to see her, but found her already moribund, and she died very soon after. He was able to make an autopsy, and on opening the abdomen, found a large crescentic mass of blood, with the horns of the crescent situated in the two hypochondriac regions. He cleared out the blood, and found that all the pelvic organs formed one solid mass; further, he found an opening into Douglas' pouch the size of a hen's egg. There had been hæmorrhage some time before, which had glued all the organs together; when she fell the barrier so formed had evidently given way, and the patient died of the extensive hæmorrhage in a few hours. It was easy here to differentiate between the older and the more recent hæmorrhage, because the earlier clot was decolorized. He could not in this case find the exact source of the blood, but he was sure it was not an ectopic gestation. This case, together with another by Aitken, of Rome, in the *Edinburgh Medical Journal*, had opened his eyes to the fact that it was nearly impossible to find a well-defined tumour, formed of blood, in the peritoneal cavity, so he felt sure that there was no such thing as a true intra-peritoneal hæmatocele: all these cases were due simply to ectopic gestation.

Dr. CULLINGWORTH (apologising for being out of order) said this was one of Dr. Bantock's pet heresies. He would like to give Dr. Bantock an invitation to come and see a case that was then in the wards of St. Thomas's Hospital—a typical hæmatocele, with a clinical history pointing to ectopic gestation. If Dr. Bantock really had an open mind on the subject he thought this case would convince him. There were all the usual signs, though, as the patient was getting better and the mass diminishing, he hoped that there would be no opportunity of verification, either by operation or *post-*

mortem examination. In the next bed was a case illustrating ectopic gestation with free effusion; and he had within a few days seen a third patient, not in the hospital, who showed the intra-ligamentous form, or hæmatoma.

Dr. BANTOCK: Dr. Cullingworth cannot prove that that is a case of intra-peritoneal hæmatocele.

Mr. CHRISTOPHER MARTIN (Birmingham) said that in the main he agreed, with Dr. Cullingworth, and thought Dr. Bantock was wrong when he said that free blood never became encapsuled in the peritoneal cavity. Most of those who had had much experience of abdominal surgery must have met with cases of tubal pregnancy with an intra-peritoneal effusion of blood shut off by a process of encapsulation from the rest of the cavity. They were indebted to Mr. Taylor for demonstrating the different stages of the process, and for pointing out some of the pathological and clinical differences between a tubal abortion and a ruptured tubal pregnancy. A case of tubal abortion he had operated on recently, fully confirmed Mr. Taylor's views. He would point out that the term hæmatocele was used in a different sense by different authors. Tait, for instance, to whom most of their knowledge of tubal gestation was due, used the term for any blood effusion, encapsuled or otherwise; Bantock and others used it only to express a well-defined tumour-like mass. He thought it would be better if this latter method of using the term were adhered to, and some other word were employed to describe a free unconfined hæmorrhage. He thought there were many more cases of tubal abortion than were at present recognised; and that if one were to look through the specimens of tubal pregnancies in the various hospital museums, not a few would be found to be cases of tubal abortion.

Mr. TAYLOR, in reply, thanked the Fellows for the interest they had shown in the paper and in the discussion following it. He was very pleased to find Dr. Cullingworth's experience so similar to his own. It would be seen, by reference to the table, that he had recognised that it was

possible for a tube to burst with the formation of a well-defined blood-tumour; but these cases were rare, and generally the hæmorrhage from rupture was diffuse. The case of encapsulation which Dr. Cullingworth had mentioned was no doubt of the same character as his own, and for the proper appreciation of such cases it was important to recognise the part which organisation of blood played. He thought that Dr. Bantock was fighting a shadow, for he seemed to recognise as hæmatoceles only such as came in some mysterious way, other than by an ectopic gestation. All his own cases had been verified by abdominal section and examination, and he thought that to refuse the name to these cases simply because they were due to ectopic gestation was as illogical as to refuse the name of cyst to an ovarian tumour simply because it had a twisted pedicle. He was glad that Mr. Martin had pointed out to the Society what he had already pointed out to him (Mr. Taylor), that different authors used the term hæmatocele in a different sense. In the paper, in order to make his meaning quite clear, he had uniformly spoken of "intra-peritoneal hæmatocele with formation of a definite tumour."

ORIGINAL COMMUNICATION.

MODERN OVARIOTOMY.

BY LEITH NAPIER, M.D., M.CH., F.R.S.ED.

(Continued from page 103.)

Closure of the Wound.—A large flat sponge is placed above the omentum, which is drawn down over the intestines. The pedicle is examined and the thread cut off close. There are two methods of suturing the abdomen, either by silk sutures threaded to a needle at each end and introduced from within outwards, passing through the peritoneum on each side, then outwards. This is the older method, and despite the previous threading of the needles, takes longer time than the other. The practice now most popular is to use an unthreaded handled needle, passing it from the skin on the right side through all the structures of the wall, and on the left side from within the abdomen outwards, including the peritoneum first, then passing through the layers reaching the skin, when the needle is threaded and withdrawn through the same puncture. Two materials are used for this method of suturing: silkworm gut (selected strands are preferable) and silver wire. Both are unirritating and less apt to cause stitch tension than silk. The top suture may be first passed, it is above the divided peritoneum and is not tied tightly; the central suture should then be introduced, this is of advantage for accurate co-aptation of the wound edges. Sutures are passed every half inch, thus a three-inch incision would require five; after all the deep sutures are passed, a small sponge in holder is introduced within the abdomen right behind the uterus in Douglas's pouch; if there are signs of bleeding the source

must be discovered and mayhap flushing and also drainage required. If the sponge is stained freely a second or several may require to be passed. When the operator is satisfied that no oozing of importance is occurring, the flat sponge over the omentum is gently wriggled out and the sutures tied. If silver wire has been used, the ends are twisted round each other and cut at about an inch from the abdomen. Silkworm gut must be rendered pliable by soaking in some fluid (an antiseptic solution of corrosive sublimate or carbolic acid) for twenty-four hours before operating; it is tied either by a single crossing of the ends, which the assistant catches with the point of forceps until the second opposite knot (reef) or knots (double reef) is tied, or by twice crossing the first time when the adjustment with forceps is not required; much depends on the softness of the material and the operator's knowledge of how to tie; which method is best everyone will decide for himself. It is a good plan to leave the ends long and tie them together, their subsequent removal is much easier for patient and surgeon. It is the duty of the assistant to see that the skin edges are accurately adjusted, and to use either a director or other instrument, if need be, to insure this. A few superficial sutures may be advantageous, particularly when the abdominal walls are fat. Chromicised catgut, or horsehair, introduced by means of Hagedorn's or small plain needles held in holder makes excellent superficial sutures.

Dressing the Wound.—The assistant sponges the abdomen clean. Folds of double cyanide gauze, or thymol gauze, or carbolic gauze, or boric gauze, or plain sterilised gauze, all being dry, are placed next the wound, thin pads of salicylic or plain cotton wool are put above this, the loins and back of the patient sponged, clean, if soiled, and dried. The many-tailed bandage is then applied and pinned in position. Strapping the abdomen is only occasionally necessary; and is generally reserved for women upon whom the operation has been unusually troublesome, and in whom we may consequently anticipate some abdominal distension. Some prefer to place

the plaster outside the gauze. Plaster is less needful when a many-tailed bandage is used, than with the ordinary flannel roller, but there can be no objection to strapping in every case if antiseptic plaster is used (such as Johnston's), and if openings are cut in it, through which we can see the conditions of the wound.

DIFFICULT CASES.—No major operation is more simple than the majority of ovariectomies; on the other hand, no other operation demands more skill, judgment, and resource, than a really difficult case. It is impossible to foresee these difficulties in many cases until they are actually encountered during the operation. We may anticipate the existence of difficult adhesions if the history of the case shows that there have been repeated attacks of peritonitis. Certain symptoms, such as the sensation of crepitus, seeming fixity of the cyst wall to the parietes indicated by immobility of the tumour, &c., have been described; but the practical gynæcologist readily admits the unreliability of such symptoms. The important point is to be able to deal with the difficulty when it is discovered. It is beyond our present aim to do more than indicate the complications more commonly found and how to overcome them. These complications may be due to adhesions, to torsions of the pedicle, to rupture of the cyst, to suppuration of the cyst contents, to hæmorrhages from rupture of vessels, or complications may be met with owing to the nature of the cyst, *e.g.*, dermoid cysts with suppurative changes, malignancy of ovarian cysts; difficulties arise also from the existence of double-sided cysts which may be conjoined, or from the co-existence of pregnancy, or fibromyomata of the uterus; or again from tubal diseases, such as hydro- or pyo-salpinx. We must also consider the position of the cyst, which, when intra-ligamentous, requires special operative treatment, and be alive to the possibility of renal, or extra-peritoneal cysts, which may be mistaken for ovarian cystomata.

Adhesions.—Should the cyst wall be adherent to the parietal peritoneum the operator may accidentally strip the peritoneum off the parietes or open into the cyst uninten-

tionally and prematurely. If the peritoneum is peeled off it is better to cut away the flap, otherwise it may subsequently become devitalised and slough. If the cyst is cut into by the scalpel, the operator must seize the cut edges with forceps or his fingers, while his assistant surrounds the opening with sponges so that the cyst contents may be directed outside the abdomen; the parietal incision should be rapidly enlarged, and if possible the cyst turned partially or wholly outside the abdomen. Should any fluid escape into the abdominal cavity it is not of great consequence, unless the cyst has contained pus, then very thorough irrigation of the abdomen and careful sponging is required.

Omental adhesions are not often very troublesome. They may be separated in various ways, either by a small round sponge which pushes the adherent tissue from the cyst or gentle pulling off by the fingers, or after ligaturing with fine silk dividing them between the ligatures. It often saves time to apply forceps and divide between these, leaving the forceps *in situ* until the pedicle has been secured, and then ligature if necessary. The obvious objection from the inconvenience of the forceps is however clear; they are frequently very much in the way when manipulating the cyst within the abdomen. If large portions of omentum are adherent we may have to employ a number of locked ligatures; the chain ligature has previously been referred to. Pieces of inflamed omentum should not be left if it is practicable to remove them. After the cyst has been divided and the pedicle seen to be secure, we should examine the cut ends of any omental adhesions, and ligature these either by a thin circular silk suture if small, or by transfixion, or even by chain ligature; if there is a large inflamed part it should be tied and cut away. A touch with tincture of matico or tincture of iodine, or slight application of the button of a Paquelin's thermo-cautery can be used if we are unable to quickly check free omental oozing by ligation.

Intestinal adhesions may occasion much trouble. If the adhesions can be pulled off without actually tearing

through the whole intestinal wall it is better to do so than to leave any portion of cyst wall attached to the bowel. It is extremely difficult to estimate what is a justifiable amount of force to employ. Every operator must learn this by the hard rule of experience. Gentle pushing with a small sponge held on a firm holder will often detach what appears to be an inseparable adhesion. When this fails, the surgeon must try to effect a cleavage by the finger points of one or both hands. The assistant steadies the tumour—and in very difficult cases the intestine—while a second assistant supports the weight of the tumour. Tearing of the intestine may affect only the serous coat. On several occasions two, three, or more inches have been thus torn without any great harm. Such tears often bleed freely. Hot sponges, or astringent applications of matico, iodine, or iron (liq. ferri fort) may be successful in arresting the bleeding. This is usually sufficient when the rent is superficial, but it seems better to avoid the iron application; personally I prefer to suture the peritoneal covering of the bowel in all cases in which hot sponges fail to arrest the oozing. If the tear is quite through the bowel it must be stitched up at once. For repair of the serous coat, the bowel is folded in upon itself, the edges of the serous surface are pierced by a very fine needle, either a Hagedorn or an ordinary small surgical needle will do, and very fine chromicised catgut or the finest silk is introduced. Some operators prefer a closely-placed series of interrupted sutures, others, and these we follow, employ a continuous suture; the latter is more quickly effected, and if applied so that no puckering results, gives an admirably smooth surface. In event of a hole being torn quite into the bowel we must adopt other means of repair. These rents are less common in ovariectomy than in operations for suppurating tubes and pelvic abscess. It is not always the fault of the operator, the intestine may be gangrenous, or the seat of tubercular ulcerations or softening. If the bowel is sloughing, or should there be manifest localised disease, either malignant or, possibly, in some tubercular conditions, it will be found

better to boldly excise the diseased part. The healthy bowel above and below the disease should be compressed with small elastic ligatures or clamps, and the diseased portion then cut out with scissors, the parts in the vicinity being carefully guarded by sponges lest fæcal matters or other infective materials escape within the abdomen. Perfect co-aptation of the cut ends of intestines may be secured by two rows of sutures, the muscular and mucous layers being secured to each other by closely applied interrupted sutures encircling the whole lumen of the bowel, and then the serous coats, being drawn down one over the other, are sutured in like manner. This answers well if there is merely a rent along part of the bowel, and may be satisfactory if we have no special appliances at hand for the treatment of total tearing across. But when we can employ Senn's plates, or the decalcified bone cannulæ used within the bowel in resection cases by intestinal surgeons, these procedures are not only safer but less troublesome. Mr. Mayo Robson read an excellent paper on the use of decalcified bone bobbins in intestinal surgery at the annual meeting of the British Medical Association in 1892, which has since been published in the *British Medical Journal* for April 1, 1893, p. 688. Treves, Greig Smith, Jessett, and other British surgeons have devoted considerable attention to this interesting and valuable addition to the resources of abdominal surgery. I have, I believe, gone a step further and employed Senn's plates inside the peritoneal cavity independent of bowel lesions. This was done when operating in 1892 for ventral hernia. The recti muscles were very wide apart, and I feared that unless I secured a strong wall the hernia would recur. I accordingly placed two large plates within the peritoneal cavity and stitched through these. The ultimate result was excellent. In some instances the tear in the wall of the intestine cannot be repaired by means of plastic surgery. If it is situated very low, *e.g.*, in the rectum, it may be obligatory to leave it alone and drain, trusting to the subsequent closure of the fæcal fistula. Or if higher up we may have to form an

artificial anus as in Littré's operation, which is described in all surgical text-books. It is quite wonderful how some fæcal fistulæ heal, and if we can drain the abdomen and keep our patient alive some apparently hopeless cases eventually do well.

As previously mentioned, the vermiform appendix may be closely adherent; if so, it should be encircled by two pieces of fine silk (Nos. 1 or 2) or chromicised catgut, and divided between the ligatures; if the mucous coat protrudes, invert it and suture it across. The bladder may be firmly fixed to the cyst by inflammatory matting. If accidentally torn it should be closely sutured; if we can choose between tearing and making a clean cut into the bladder wall, we prefer the latter and suture carefully. Certain disastrous cases have occurred in which the cyst wall and intestine were closely adherent to the posterior pelvic wall, and in endeavouring to free dense adhesions, large vessels have been torn. It is possible, though hardly probable, that the internal iliac vein or artery might be torn. With ordinary care it should be easy to avoid such a calamity. For the arrest of such hæmorrhages we must, when possible, ligature with silk; if this cannot be done, forceps may be applied and left inside the abdomen for twelve hours or more, when the wound should be re-opened and the forceps removed. When it is found impracticable to ligature the bleeding vessels or apply forceps, the abdominal cavity may be stuffed with clean gauze, the ends being brought outside the abdomen. This allows of easy removal and also acts as a drain.

Intra-ligamentous cysts.—Parovarian cysts, and more especially *proliferating papillomatous* cysts which grow from the hilum of the ovary, often insinuate themselves between the layers of the broad ligaments and become so very firmly fixed that the complete removal of the cyst is a surgical impossibility. We have also met with some cases of encysted serous perimetritis in which there has been a considerable quantity of clear serous fluid enclosed within the folds of the ligament and shut off from the abdominal cavity by inflam-

matory tissue and adherent intestine matted together. It would not be difficult to mistake these for intra-ligamentous cysts; the great distinctions are the nature of the walls, which is manifestly different from a homogeneous cyst wall, and partly the nature of the fluid, which, however, much resembles parovarian fluid. It is usually found that in the previous history acute tubal inflammation has been noted. Evacuation of the fluid without any attempt to remove the surrounding structures is all that is needed to effect a cure. Probably a good many cases of this nature have been recorded as parovarian cysts cured by one tapping. Ovarian cysts may open up the broad ligament, and in consequence of the inflammatory adhesions between the cyst walls and the ligaments become so firmly fixed that their removal is at times most difficult, and in some instances impossible. The method of operation required may be enucleation, or what French surgeons term marsupialisation. After tapping the cyst, we should endeavour to separate it from its adhesions to the ligament, carefully securing all bleeding points as we proceed; if this cannot be done we must enucleate.

Enucleation is required when the tumour is so firmly adherent and encapsuled that it is impossible to otherwise free it. Should the capsule completely surround the cyst, and if there is a marked narrowing between the uterus and the tumour, it is necessary to remove the capsule with the tumour and treat the narrowed portion as a pedicle. This is not so, however, in the cases we are now considering in which the tumour has burrowed downwards into the pelvic cellular tissue, and has also opened up the broad ligament without much alteration of its position. Here there is no pedicle, and the base of the cyst lies deep. Begin the dissection from the uterine side of the cyst; withdraw the emptied cyst as far as possible, cut through the layer of the capsule until the cyst wall, where it is adherent, can be clearly distinguished, then with the handle of the scalpel, or better, with the finger, try and effect a cleavage between the investing peritoneum and the cyst. Push slowly onwards

not tearing but gently stretching ; ligature, or apply forceps, to the bundles of tissues which are vascular, and snip across with scissors what the fingers cannot peel off. With gentleness and care we can frequently shell out the whole cyst. Care must be observed at the outer edge or the uterine artery or ureter may possibly be torn. The two flaps may be stitched up, or gathered together and ligatured as a pedicle after trimming away any bruised or redundant portions. It is wise to drain as a precaution. Subsequent hæmorrhage is not a very unusual occurrence.

Marsupialisation is resorted to when the adhesions between the capsule and the sac are so firm that enucleation cannot be effected. After emptying the cyst and attempting its removal from the capsule, should it appear that we cannot remove it, pull the edges of the cyst and capsule as far out as possible, trim off with scissors, stitch the open mouth of the cyst to the abdominal wall, carefully suturing the peritoneum so that above and below the open mouth of the sac it is wholly shut off, and insert a drain into the sac. These cases do well. The drain may have to be left in for a considerable time in some, in others it may be removed with safety in two or three days. It is much better, for the patient, to adopt this method than to make over-strenuous efforts to dissect out a densely adherent cyst. I have recently seen one of my patients, operated upon on September 5, 1892, in whom an extremely firm intra-ligamentous ovarian cyst was treated in this way. She is in excellent health, has no fistula, and nothing of the cyst wall can be felt. Unfortunately there was some difficulty about the fit of her belt, which she found uncomfortable ; owing partly to this and partly to a troublesome cough, she has a slight tendency to ventral hernia, which, however, is quite manageable by a proper abdominal belt.

Complicated Cases.—Some cases may be regarded as complicated, which are, so to speak, accidentally so, others are veritably associated with pathological conditions requiring special consideration. In the former class we may reckon ovarian or parovarian cysts with torsion of the pedicle.

Twisting of the pedicle is a fairly common occurrence. If gradual and only partial it may give rise to no symptoms, and only be discovered at the time of operation. On the other hand, if twisting happens suddenly or becomes complete, symptoms resembling acute peritonitis may speedily be presented. Engorgement of the vessels occasions hæmorrhage into the cyst, and more or less grave shock is often a consequence.

The following case illustrates the desirability of immediate operation should acute symptoms of torsion arise. Mary B., aged 27, single, was seen in consultation December 14, 1891, when the following history was elicited : three years ago she fell down stairs, after which she suffered abdominal pain for a few weeks, but was not confined to bed. Three months ago she had an attack of severe pain in the right side of the abdomen accompanied by sickness and great prostration. She was then in bed for over a fortnight. On December 11 she was seized with acute abdominal pain and intractable vomiting, painful micturition, and obstinate constipation. December 14 the pulse was 110, temperature 101° ; the abdomen was prominent ; a rounded swelling extended from the pelvis to above the umbilicus ; there was marked tenderness on palpation. By vaginal examination the uterus was found to be retroflexed, and evidently displaced downwards and backwards by the super-incumbent swelling ; the latter seemed distinct from the uterus, but closely attached to it. A diagnosis of ovarian cyst of the right side, complicated by peritonitis, probably due to twisting of the pedicle, was made. Immediate operation was advised. On December 15 I operated, when the diagnosis was verified. The cyst was adherent to the peritoneum, especially above and to the right side of the pelvis. The pedicle was formed by the right Fallopian tube, which was much enlarged, and a portion of broad ligament ; it was rotated from right to left, had three twists, and was exceedingly short. Free hæmorrhage had occurred within the cyst and between the layers of the cyst wall. A hard portion of the cyst proved to be composed of

organised blood clot which was undergoing degenerative changes. A portion of inflamed omentum was ligatured off and removed. On deep sponging several shreds of inflammatory lymph and pre-operation small blood clots were removed from the pelvis. The tumour was a right-sided parovarian cyst; the right ovary was the seat of very large hæmorrhages and had the thickened, enlarged, distended tube coiled round it. The patient made an excellent recovery. She reported herself on February 22, 1892, when she stated that she was menstruating. This was the second period since the operation; both had been moderate in quantity and painless; prior to operation she had suffered from dysmenorrhœa. If speedy operation had not been performed I have no doubt that this girl would soon have succumbed. She had every appearance of most serious illness. The existence of peritonitis was amply shown, yet all danger passed with the removal of the cyst, and her convalescence was absolutely smooth and rapid. In every case of acute torsion of the pedicle the patient's condition demands immediate operation.

Formerly surgeons shrank from opening the abdomen when peritonitis was evident. Now we know that in many cases it is the only reliable means of cure.

Suppuration may occur within the cyst. In some instances this is accompanied by considerable and rapid increase in the size and tension of the tumour, with more or less febrile disturbance. But there is, so far as I know, no certain means of diagnosing suppuration in one or two of the cyst cavities in a multilocular cystoma, especially if the suppurating cysts are at some distance from the surface of the tumour. Pus may form in dermoidal tumours; generally speaking the pus is found in secondary loculi outside the main tumour.

Mrs. S., aged 25, a secundipara, was admitted to the Hospital, under my care, on account of an abdominal tumour. The tumour was first observed after the birth of her first child, about four years prior to her admission. Until within a short time before operation it had caused no pain or inconvenience.

It was situated on the left side and reached as high as the iliac crest. Operation on September 24, 1891. On passing two fingers into the abdominal cavity a very hard sessile mass, about the size of a small cocoon, was felt. There were firm adhesions wholly surrounding the tumour, which was attached to the left side of the pelvis as high as the iliac crest, and to the uterus; there were also intestinal adhesions on both sides. The mass could be moved in a limited area. The incision was enlarged to four and a-half inches, and the whole hand passed within the abdomen. The tumour was pressed forward, by my assistant, from the lumbar region, and thereby brought into view. A very thick vascular adhesion to the uterus was ligatured and divided; this permitted much freer movement of the tumour. A fine exploring syringe was passed into the growth, and about three drachms of pus withdrawn; on repeating this, about the same quantity was obtained. My catch trocar was then introduced, when a small flow of pus was seen. As some cheesy sebaceous matter was exuded and a few hairs were noticed where the trocar had been introduced, it became evident that we had to deal with a dermoid cyst. A firm intestinal adhesion to the anterior surface of the tumour on its right side, fully two inches in length, was then separated; great care was observed, but it was impossible to avoid tearing the intestinal serous membrane. The raw surface bled somewhat freely and was stitched with one catgut, and several fine silk interrupted sutures. The trocar was withdrawn and the aperture clamped. The tumour was lifted up, when another very firm intestinal adhesion, two and a-half inches in length, attached to the left and posterior surface of the cyst wall was encountered, this was peeled off with considerable difficulty; the torn intestinal surface was stitched with fine silk. The Fallopian tube, which was greatly hypertrophied, was transfixed and ligatured, and then divided. Another adhesion to the right of the cyst about the thickness of the little finger, and containing a large vessel, was ligatured and divided. Still the tumour was most firmly fixed posteriorly. These

adhesions were slowly and carefully broken down, and finally the cyst was removed entire. On exploring the posterior bed of the tumour a thickened rough surface composed of inflammatory tissue, as large as the palm of the hand, was felt. The abdomen was irrigated with hot boric solution; a glass drainage tube was inserted: the wound was closed with silkworm gut sutures. The operation lasted nearly an hour and a-half, but the patient left the table in good condition. The drainage tube was removed in forty-eight hours. The patient made an absolutely non-febrile recovery.

Dr. Shaw Mackenzie's report on the specimen, which was exhibited at the Obstetrical Society of London (*Trans.*, vol. xxxiii., p. 460), showed it to be a dermoid of the left ovary containing a large quantity of dark coloured hair, and the usual cheesy sebaceous matter; the pus was principally, if not wholly, in secondary loculi outside the main cyst cavity. The increase of these loculi probably accounted for the rapid enlargement of the tumour which was observed shortly prior to operation.

The lesson to be learnt from this very difficult case is plain. With reasonable care it is much better to persevere with the separation of difficult adhesions than to incur the graver risk of leaving a suppurating cyst inside the peritoneal cavity.

Rupture of the cyst wall with partial or complete discharge of its contents into the abdominal cavity is not infrequently seen. When a cyst containing colloidal material ruptures, the sticky jelly-like material may be found freely disseminated amongst the coils of intestine. It may be very difficult to wholly remove it, and in every such case thorough flushing of the peritoneal cavity, and careful subsequent sponging are indicated; the glass drainage tube should be used for at least twenty-four or forty-eight hours.

Among the second class of complicated cases we may profitably consider double ovarian cystomata; ovarian cystoma with uterine fibro-myoma; ovarian cystoma with pregnancy; ovarian cystoma with pyo- or hydro-salpinx; ovarian cystoma with malignant uterine disease. Double

cystic tumours are by no means rare. They are only likely to give rise to difficulty in operation when, on account of extensive adhesions and displacement of adjacent parts, the usual relations are confused. The fusion of two pedicles has previously been alluded to. In case of doubt it is always wise to secure any structure which appears to contain vessels; one must, in a word, treat all such cases with circumspection and common sense.

Cystic tumour of the ovary complicated by fibro-myoma must be treated as though the uterine growth did not exist, that is to say, unless it is deemed necessary for reasons special to the case to interfere with the uterine tumour, it will usually be safest to leave it alone. But in such cases it will always be wise if we can remove both ovaries without great difficulty to do so; should the uterus or the capsule of the tumour be accidentally torn, it may be necessary to perform myomectomy or hysterectomy. This must always add materially to the risks of the operation.

Ovarian cystic disease complicated by pregnancy is comparatively a rare condition. There have been several cases in the Hospital during the last few years. The recognised practice is to remove the ovarian tumour. Abortion or premature delivery may follow, but I am inclined to think that this is often traceable to undue interference with the uterus during operation, or to too prolonged operation. In the majority of cases if the operation has been an ordinarily favourable one, there will be no interruption to the continuance of gestation, nor, even should premature labour or abortion happen, need we anticipate that the case may not recover well. Up to the fifth month of gestation there can be no question that ovariectomy is justifiable in pregnancy. Should we be called in later, each case must be considered on its merits—the size, rapidity of growth and position of the tumour; the symptoms caused by it, such as great pressure, pain, sickness, febrile attacks, &c. If left until after parturition the patient should be watched very carefully. Peritonitis associated with torsion of the pedicle is a common occurrence

in parturient women who are the subjects of an ovarian tumour; the symptoms may come on shortly after delivery, and be mistaken for septic peritonitis. Dr. Aust Lawrence¹ has recently recorded ten cases of post-partum ovariectomy; all recovered, but some narrowly escaped; he advises against post-partum operations when one can operate ante-partum.

Ovarian cysts are at times complicated with salpingitis, or hydro- or pyo-salpinx of the opposite tube. The removal of the diseased tube is advisable in all such cases, absolutely necessary if the tube contains pus, which can be generally assumed if it is thick walled and much distended. It is best to make a free abdominal opening, remove the cystoma first, and then proceed to the separation and removal of the diseased tube. Tubo-ovarian sacs ought always to be removed; in such cases, the adhesions are often very troublesome and hæmorrhage may be very free. The abdomen should be well flushed, and a Keith's glass drain inserted for at least twenty-four hours. Should we find a solid growth of the opposite ovary it ought to be removed, the probabilities being that it is malignant.

Extra-peritoneal cysts which are now described in text books are seldom found in conjunction with ovarian cystomata; they may give rise to errors of diagnosis, but their operative treatment is based on ordinary principles. Renal cysts have been mistaken for ovarian, and conversely. Usually after the abdomen is opened there is no difficulty in deciding. But a word of warning may be worthy of utterance; do not simply plunge a trocar into any cystic-like tumour as soon as the abdomen is opened. Subsequent separations of adhesions after tapping, and rapidity of operation are doubtless the best and most successful practice, but unless the diagnosis has been clearly made before opening the abdomen, it should be made after. The surgeon who operates with the aid of his head will not find his hands less

¹ *British Medical Journal*, September 16, 1893, p. 9622.

useful when their turn comes. Brilliancy in operation is not simply rapidity, it is a combination of thoroughness, caution, rapidity and delicacy of manipulation. Unless an operator cultivates all these he will never justly attain the first rank. Hydatids may co-exist with cystic ovarian tumours. It is, however, more usual to find that the hydatid has been erroneously judged to be an ovarian cyst; the situation and development of these growths is generally fairly distinctive. But tapping after opening the abdomen will at once clear up any doubt.

Malignancy of ovarian cystomata occurring either alone or with malignant uterine disease varies greatly in degree. Some malignant cystic growths present few difficulties on removal, generally free ascitic fluid is found, and usually more or less peritonitis. One of the as yet undecided pathological problems in ovarian surgery is to determine the place of some proliferating papillary growths. Surgically there is no difference of opinion as to the necessity for their removal. Other malignant cases present insuperable difficulties, the uterus being firmly fixed to the cyst or to a double cystic condition, the intestines being matted and so adherent, that removal of anything is practically impossible. These cases may live for some months if we close the abdomen without unduly disturbing the parts. It is usually right to explore in all doubtful cases. One patient aged 71 years, who had ascites associated with an abdominal growth, and who had also suffered from chronic cardiac disease and anasarca, was operated on on August 15, 1892, simply with a view to relieve symptoms. The abdomen was opened, nine pints of ascitic fluid were removed containing lymph flakes, the nature of the growth was not determined, and it was so firmly fixed that removal seemed out of the question. After a period of four months I heard that the effusion recurred, but gradually lessened, and practically disappeared. The patient is now, nearly two years after the operation, in very fair health. In this instance laparotomy was performed instead of paracentesis, and was manifestly as safe and much

more satisfactory. Malignant uterine disease may be found with ovarian cystic disease, and it may be considered right to remove both uterus and cyst. In such circumstances the necessary shock from a prolonged operation on a weak patient must be considered. We must determine whether ovariectomy followed by vaginal hysterectomy can be borne simultaneously, or whether we can more properly subject the patient to two serious operations within a short time. By opening the abdomen first, and not only removing the cyst but carefully ascertaining the precise condition of the corpus uteri, we may be able to decide that supra-vaginal hysterectomy will remove the malignant uterine growth. But if a total hysterectomy is unavoidable, we must choose between two evils—the risk of the great shock, and possibly prolonged operation, and on the other hand the risk of leaving the patient for a fortnight or so until she shall have regained such strength as seems to warrant another operation, but involves further possible spread of the disease.

Solid Ovarian Tumours are more frequently malignant, or semi-malignant, than benign. The exact nature of the tissue is a matter for subsequent histological determination—the duty of the clinician is to remove such growths as soon as they are diagnosed. Uterine fibro-myomata and myomata of the broad ligament may be confused with solid ovarian growths; the first named is vastly commoner than either of the other two. It is not always possible to establish a clear diagnosis between a sub-peritoneal uterine fibro-myoma with a short pedicle, a broad ligament myoma, and a solid ovarian tumour. The urgency of the symptoms may be so slight, and the reluctance of the patient to the risks of laparotomy so great, that a case may be observed unduly long. A brief reference to one case well illustrates this:—

A. D., 25, single, first consulted me in February, 1889. There was a history of a fall, some injury to the right side and subsequent pelvic trouble in November, 1887. Beyond exaggerated antelexion of the uterus, no ovarian or pelvic disease was discovered. On June 6, 1890, she returned

complaining of some pelvic pain. She had had suppression of menstruation for the previous two and a-half months. Measurements—girth at umbilicus, 28 inches; umbilicus to right anterior iliac spine, $5\frac{1}{2}$ inches; umbilicus to left anterior iliac spine, $5\frac{1}{2}$ inches; umbilicus to ensiform cartilage, $5\frac{1}{4}$ inches; umbilicus to pubes, 6 inches. *Per vaginam*, a large hard lump was felt in the pelvis which seemed to be partly inflammatory and partly composed of the right ovary. June 18.—“The abdominal growth is increased in size, being now as large as a small cocoanut; it lies almost centrally in the abdomen, and is ovoid in shape. Bimanually it is felt distinct from the uterus, but attached to it; the tumour dips into Douglas's pouch on right side, but can be displaced upwards. Sound enters uterus two and a-half inches.” During July the patient entered a general hospital, where she came under the care of one of the most skilful gynaecological diagnosticians, with whom I had the advantage of consulting. Note on July 11, examined under ether:—“Os uteri normal in size and consistence; in posterior fornix there is a small hard body the size of a cherry-stone. Bimanually a hard rounded solid mass felt to right of and behind uterus, moving to a slight extent independently of the uterus. Under surface of tumour very hard and lobulated. Diagnosis—a sub-peritoneal fibroid or a solid tumour of right ovary or of right broad ligament.”

Operation on July 17, a hard, solid tumour of right ovary removed, $5\frac{1}{2}$ inches in length, $3\frac{1}{2}$ inches in breadth, 3 inches in thickness, weight $12\frac{3}{4}$ ounces. The right Fallopian tube was free and normal; it was, however, included in the ligature. The tube and ovary of the left side were healthy, but it was deemed necessary to remove them. One of our most competent microscopists reported that the tumour was a fibroma, but the subsequent clinical history makes it pretty certain that it was malignant. On January 25, 1891, I met Dr. Clark, of Woolwich, in consultation, who had been attending A. D. for about three weeks. She had suffered from acute peritonitis. *Per vaginam*, no physical

evidence of pelvic mischief. Uterus in normal position—internal measurement two inches. April 4.—Attended at my house; abdomen greatly and uniformly distended. Palpation gives an indefinite feeling of centrally situated hardness in hypogastrium extending to umbilicus. *Per vaginam*, cervix hard; there is an irregular sulcus between it, and a tumour in the posterior fornix, previously mentioned in notes of July 11, 1890. Bimanually, uterus distinctly enlarged, sound enters with some difficulty $2\frac{3}{4}$ inches. Advised to return to hospital, where symptoms gradually became worse, intestinal obstruction supervening. One of the surgeons performed laparotomy, and made an artificial anus. After some weeks the patient died, and *post-mortem* extensive sarcomatous disease was found in the peritoneal cavity affecting the uterus, intestines, and mesentery.

A fibro-myoma of the broad ligament may be so closely related to the uterus, and give rise to such symptoms that one readily regards it as ovarian.

Mrs. R., aged 24, married two years, was admitted into Hospital, September 4, 1893. She always had suffered from dysmenorrhœa, but had been much worse since her first confinement, twelve months ago; pain was most marked when the flow was about to cease, and latterly had lasted continuously until the next onset. The pain was mostly in the right iliac region, down the right leg as far as the knee, and in the back. Her general health had become much impaired; there was considerable yellow vaginal discharge, and also urinary retention during the catamenia. A period appeared on 7th, and lasted till 13th. The pain was partially controlled by antipyrin and morphia; the flow was freer than usual, though the patient was wholly confined to bed. She was examined under ether on the 14th. The uterus was of normal size; the left tube and ovary seemed normal; to the right of the uterus and evidently closely attached to it, was a rounded somewhat elastic body about the size of a tangerine orange; the right ovary was not felt. A diagnosis of small, semi-solid cyst of right ovary was made, and its removal advised. On the 16th

the patient had a stiff neck, which was accompanied by inflammation of the posterior cervical glands; by 21st, this was well. Operation on 21st. A soft fibro-myoma, the size of a small orange, was found within the inner edges of the right broad ligament; the pedicle, which was very indefinite, was composed of fibrous tissue and broad ligament; the tumour was also closely attached to the right upper aspect of the uterus. The growth was detached and was removed. A tear was caused in the uterine peritoneum in separating the tumour. A pedicle was formed from the broad ligament, transfixed and ligatured; the uterine tear was stitched with continuous suture of chronic catgut. Some freely-oozing points were touched by a thermo-cautery point. On opening the tumour it was found to have a central, blood-containing cyst, about the size of a cherry. Both ovaries and tubes were found to be normal, and were left undisturbed. The patient made an excellent recovery.

Carcinoma of the ovary is rarely observed in time to secure its successful removal, as secondary carcinoma is more common than the primary affection. Carcinomatous degeneration of adenomatous cysts is not infrequently encountered. An interesting and rare example of malignant growth was afforded in a recent case on which I operated.

Mrs. G. (admitted to the Hospital on September 1, 1893, whose case is related in abstract), aged 25, married eight years, nullipara, was informed by her medical attendant, three and a-half years previous to admission, that she had a pelvic tumour on the right side of pelvis; there were no special symptoms then. For some time back she had a feeling of fulness on the right side of the pelvis and numbness of the right lower extremity. Six weeks before her admission a swelling became prominent in the right lower abdomen. On mensuration we found the girth 30 inches at umbilicus, the distance from umbilicus to right iliac spine, $5\frac{3}{4}$ inches, to left $6\frac{1}{4}$ inches, from umbilicus to symphysis pubis, $7\frac{1}{4}$ inches. *Per vaginam*, and bimanual examination, uterus anteфлекed; lips everted; Douglas's

pouch occupied by a cystic swelling, continuous with abdominal cyst, which, while mostly central, seems to occupy the right side mainly.

Abdominal section on September 4, uterus found pushed up against anterior abdominal wall, with a large tumour adherent to its posterior surface. The tumour was also very extensively attached to the pelvic wall on the left side and to the intestines. The tumour was markedly bilobate, the lower lobe was densely adherent in the lower pelvis, and to structures in Douglas's pouch. The cyst was one of the left ovary; the right ovary and tube were found to be healthy and were not removed; drainage was employed for forty-eight hours. The operation was a very severe one, but the patient's recovery was most smooth and satisfactory. She left hospital on October 2. The cyst contained over three and a-half pints of ovarian fluid. On the interior wall of the left side was a hard conical projection of considerable size, and continuous with the tumour tissue. Dr. Eden having submitted this portion to careful microscopical examination, reported on it as follows:—"The greater part of the growth consists of non-striped muscle and fibrous tissue, with, in some places, marked round cell infiltration. Passing through the substance of the growth are isolated areas of sarcomatous degeneration with numerous giant cells."

In this case, had I been able to realise the nature of the growth within the cyst during the operation, I would have removed the other ovary. Despite the favourable issue of the case from the immediate operation, I apprehend that the ultimate result would have been more favourable had I done so.¹ The lesson is obvious—in all cases of doubtful ovarian growths remove both ovaries although the second ovary may seem free from disease.

¹ Since the above was written, a very large rapidly-growing sarcomatous tumour recurred in the pelvis, and resulted in the patient's death, after an illness of little over four weeks' duration. Recurrence took place in January, 1894.

Pseudo-cysts or phantom tumours are practically beyond our present subject; they are merely referred to for the purpose of emphasising in the strongest possible manner the great importance of examining every case most carefully under an anæsthetic should there be the slightest doubt as to its exact nature. Abdominal exploration is often necessary before a diagnosis can be absolutely made; but to substitute opening the abdomen for a painstaking effort at a precise clinical diagnosis of abdominal growths is not only a confession of either gross recklessness, or ignorant indifference, but will in the long run prove disastrous both to the surgeon's reputation, and to the lives of many patients.

THE AFTER TREATMENT OF OVARIOTOMY AND THE GRAVE ACCIDENTS OR COMPLICATIONS WHICH MAY SUPERVENE.—The first danger is shock. Shock is often the result of prolonged operation alone, so that the more rapidly an operation can be effected with due regard to all necessary surgical precautions against hæmorrhage, and without neglecting to remove all removable diseased structures, the less chance of the great primary risk. I have seen an ovariectomy performed in twelve minutes, and about fifteen to twenty minutes is not an unusual time for an expert operator. But this assumes that the case is either wholly or nearly an uncomplicated one. Should the patient be under operation an hour or more, or should the weakness or rapidity of the pulse indicate the necessity sooner, a stimulant enema containing an ounce of brandy should be given before she leaves the table. In very severe operations a hypodermic injection of two minims of liq. strychniæ has frequently been given with advantage, and in more than one case of extreme condition the exhibition of oxygen gas has been attended with success.

After removal to bed the temperature should be taken. A low temperature indicates in some measure the extent of shock; after operation there is generally a fall below normal; this may amount to 2° or more. In such cases nutrient enemata of brandy, beef tea, and white of egg, should be

given early. In every case hot bottles should be placed in the bed before the patient is returned to it. After the first few hours, generally in about two hours, the effects of shock pass off—the patient's skin becomes slightly moist. For the first twenty-four hours, unless severe shock or other untoward symptom specially indicates the need of stimulation, nothing except teaspoonful doses of very hot water every hour or oftener should be allowed. Extreme thirst is much better alleviated by injecting a pint of hot water into the rectum than by allowing ice or larger quantities of hot water by the mouth. Some patients suffer from very considerable abdominal pain on regaining consciousness. Unless absolutely necessary, opium should be withheld; if given, a $\frac{1}{4}$ or $\frac{1}{2}$ of a grain of morphia should be administered hypodermically. It is better to give such a dose than to allow the patient to go wholly without sleep during the first night after operation.

Secondary hæmorrhage is not a common sequence after ovariectomy, but it may occur, and every nurse should be alive to the possibility. The signs are usually restlessness sudden and increasing pallor, rapid pulse and much uneasiness. A definite swelling may be seen on loosening the bandage, or there may be some external escape of blood through the abdominal wound. The only case I have had the misfortune to see, happened after a comparatively simple operation. The patient was 60 years of age, and had noticed a tumour for fourteen years, but no special inconvenience was felt till ten months before admission to hospital, when she suffered from severe iliac pain, much bearing down, inability to walk, &c.

Operation of right ovariectomy on July 13, 1893, at 2 p.m., numerous omental and intestinal adhesions were separated. Some required ligation; the pedicle, which was soft, was secured by a double silk ligature, a catgut suture was inserted across the mouth of a large vessel in the pedicle, and the peritoneal edges brought together; time occupied, about thirty minutes. The patient for a time did very well. At 12, mid-

night, temperature 98·2°, pulse 82, dressings dry, somewhat restless. She was slightly sick at 12.10 and 12.30; the nurse sent for the resident medical officer at 12.55, who, on visiting at 1.5 a.m., found the patient collapsed, blanched, very restless, with sighing respiration and strangury; pulse 120, weak, somewhat intermittent; temperature 97°; in the abdomen a distinct swelling, with fluctuation and impaired percussion, was evident in the right iliac region. I was sent for, and concurred in the diagnosis of internal hæmorrhage. At 2.30 a.m. the patient was taken into the theatre and the abdomen re-opened. The stump of the pedicle was examined and found to be in normal condition; the ligature was firm. Under the stump, occupying the right true pelvis and iliac region there was a prominent retro-peritoneal hæmatoma. The peritoneal covering was incised, several small dark clots with about half a pint of dull red coloured blood were evacuated. Search was patiently made for any definite bleeding points, but in vain, only a general oozing was noted. Some oozing points of the peritoneum and broad ligament were ligated, and the general oozing ceased. The right pelvis was deeply stuffed with gauze, and a glass drain was inserted. The wound was closed.

July 14, 5.30 a.m., patient pale, still restless, pulse 110, temp. 100°. Two drachms of blood-stained serum were aspirated from the tube. Coffee ground vomit; stimulant enemata, iced brandy and champagne continued. 8.30 a.m., weaker, cold, pulse 120, temp. 99°. 11 a.m., blanched, pulse very rapid and weak. Transfused with 18 ounces of saline solution into left basilic vein. 11.45 a.m., decided improvement in pulse and general condition. 1.45 p.m., gradual sinking; enemata not tolerated; death.

Post-mortem.—No blood was found in the peritoneal cavity nor in the former site of the hæmatoma, the iliac vessels were not injured, and no evidence of blood having come from the pedicle behind the ligature was discoverable.

The pedicle and portions of the internal iliac vessels were removed for subsequent examination. Most unfortunately

ing to changes in the pathological department, the parts laid aside for minute examination were mislaid ; so that the source of the hæmorrhage still remains a mystery. We believed that there was an atheromatous condition of the vessels, and that the bleeding probably arose from some veins on the pelvic side of the pedicle. Other surgeons have met with analogous cases. So far as one could judge, no time was lost in immediately treating the hæmorrhage, and it was manifest that the measures employed for its arrest were successful, although, unfortunately, the shock from the loss of blood and the second operation proved fatal.

In these cases we have no alternative but to reopen the abdomen, and, if possible, secure the bleeding point. I have twice transfused with saline solution on patients who had post-operation bleeding, using Mr. Arbuthnot Lane's apparatus. Only temporary good was obtained.

The commonest troubles after ovariectomy are sickness and vomiting. Almost every patient, on regaining consciousness, vomits a very little ; in some it may amount to little over a teaspoon or two of yellowish froth ; others continue vomiting, retching for many hours. I am not an advocate for giving the patient a large drink of soda water or plain water for the purpose of washing out the stomach. If we wish to clear the stomach it is better to use a long indiarubber syphon tube and inject very weak iodised or plain water. Some persistent vomitings are associated with peritonitis, enteritis, or sepsis ; others, quite as troublesome, seem only reflex. For the latter, small doses of tincture of iodine or of carbolic acid in glycerine are sometimes useful. The vomiting from anæsthetics may continue longer than twenty-four hours, but if vomiting does not cease by the third or fourth day we must attribute it to some other cause, and try, if possible, to control it.

Retching and intractable hiccup are more trying to the patient than actual vomiting. In severe cases morphia given under the skin is the best remedy.

Tympanites may be due to a slight form of reflex disturbance, or to a grave condition of intestinal paralysis going on to obstruction, or be associated with peritonitis.

The rectal tube should be passed and left in for at least ten minutes at a time ; there is no harm in leaving it for an hour. Then carminatives, such as peppermint, cardamoms, spirit of chloroform, etc., may be given by the mouth. After the second or third day a good saline purge, either magn. sulph., in drachm doses every hour till action occurs, or some other saline will be advisable. In ordinary circumstances the fifth day is early enough to give a purge, but tympanites is best treated by free early purgation. An enema should be given, either before or shortly after the medicine by the mouth. In cases with flatulent distension turpentine should be given in the enema, and this may also be given by the mouth in doses of $\text{m}\nu$. or x . in capsules every two hours.

Moderate rises of temperature are due to one or more of three causes : accumulation of flatus in the intestine, reactionary fever consequent on all surgical procedures, or bladder distension. At a later period constipation may cause either a slight rise, or if there is sickness or nausea with it, a slight fall.

During convalescence after ovariectomy there may be very little disturbance of the normal pulse or temperature. I might quote many cases in which the highest pulse rate after the first day did not exceed 80 or 90, and the thermometer never registered 100° .

Temperature is markedly influenced by limited suppurations. The fourth night is the critical night in the course of ovariectomy. After this there will be slight evening rises up to the eighth or ninth night or longer ; in other words, until after the removal of deep stitches. Unless there is inflammation or septic absorption, the pulse rate is but little or not at all affected. We note rises of temperature as common on the sixth and seventh days ; after the eighth day there is little disturbance in favourable cases. Exceptionally there are evanescent rises of temperature, explosions, jumps of three or four degrees, which may last from half-an-hour to three or four hours, and thereafter disappear as rapidly as they came. The patients do not seem to suffer in consequence. But

should such a jump be accompanied by relatively rapid pulse, by vomiting, or by painful abdominal distension, then danger must be apprehended. In convalescence after ovariectomy pulse rate in relation to temperature must be carefully watched.

We must also remember that there are other possible causes of fever besides peritonitis and septicæmia. Bronchitis (which may be partly attributed to ether anæsthetisation), pneumonia, ague, rheumatism, the establishment of the menses (which often occurs prematurely after abdominal operations), as well as errors in diet, or neglect of the bowels and bladder, will be attended by rises of temperature.

Enforced constipation is a mistake. The bowels should be relieved by enema on the fourth or fifth day. Locking the bowels up by opium is now abandoned as not only needless but mischievous. At latest on the sixth or seventh day a saline purge or a dose of castor oil or senna should be given; if the oil can be taken it answers admirably, but patients are often inclined to sickness, if so a seidlitz powder of sulphate of magnesia agrees better.

The catheter should be used six hours after operation; and if need be this should be continued until the urine can be voided naturally. Some patients require catheterisation for several days, but if the bladder has been once or twice emptied it is by no means uncommon to have natural micturition. Do not allow the bladder to become distended, but use the catheter as seldom as possible. When the instrument is used it should be carefully made aseptic.

When peritonitis supervenes, we must give saline purgatives, relieve severe pain by morphia given hypodermically, and nourish the patient by rectal feeding, and, unless prevented by vomiting, by food given by the mouth. The same methods are required in septic conditions, except that persistent vomiting generally prohibits food by the mouth, and diarrhœa may have to be restrained by starch and laudanum enemata.

The secret of "curing" such conditions is to keep the

patient alive. Various anti-pyretics may be helpful in reducing temperature; among these antipyrin, salicylate of sodium, Warburg's tincture, quinine, &c., may be mentioned. Leiter's coil, or ice bags to the head may benefit cases of hyperpyrexia, but it is questionable if any routine plan of treatment can be laid down. At best we only treat symptoms and try to keep the patient's breath in her body. In certain cases we may be justified in partially reopening the abdomen by removing one or two of the lower stitches, and injecting a saturated solution of hot boracic acid with the view of washing out any retained purulent fluid—for this purpose we should use either a glass tube such as Bozeman's double catheter for uterine irrigation, or a new double channelled catheter. After such a procedure we must insert a drainage tube, and may possibly have to inject weak solutions of iodine in water from day to day for a time.

Intestinal obstruction is apt to be confused with peritonitis, and a timely re-opening of the abdomen might have saved many a case. It is always a grave responsibility to re-open the abdomen unless there is a very clear indication that it cannot be avoided. I have more than once regretted not having done so. I think were it done earlier we should have more satisfactory results. The main question is—Can we count on the patient's strength, and, further, can we reckon on finding an obstruction? The subject of diagnosis of post-operation obstruction is too long to be discussed here. Probably, only a close study of many cases will enable anyone to be even tolerably accurate in deciding when to re-open, and when not.

The diet after the first twenty-four hours up to the fourth day, when fish may be given, should be light, digestible, and for the most part liquid. Such foods as Benger's, Carnick's, Mellin's, peptonised milk, barley water, chicken soup, and beef tea, &c., are usually ordered. Every patient must be dieted according to the necessities of the case. The danger of over-feeding is greater than that of under-feeding. Still, when the vitality is very low, patients must be nourished immediately

after operation. Rectal nourishment is to be administered until the stomach can retain food, and, if there is no sickness, food by the mouth may be given on the day following operation. For exceptional cases no precise rules can be framed.

Cystitis is sometimes a troublesome post-operation sequel. The use of an intra-cystic douche of hot boracic solution thrice daily through a double-channelled catheter will generally effect a cure.

Parotitis has occurred in a good many recorded cases after abdominal section and ovariectomy. The gland may, or may not, suppurate; should it do so, the origin has probably been septic. The course is irregular and uncertain. After one of my abdominal sections, not an ovariectomy, both glands were enormously swollen, and considerable constitutional disturbance occurred. No pus formed; the patient recovered well.

Tetanus is a very rare sequela in England; abroad it has been more frequently encountered.

Thrombosis of the veins of the pedicle with subsequent phlegmasia and pulmonary embolism have been recognised as post-operation complications.

PROGNOSIS.—Most diseases admit of more lengthened discussion as to the result of non-interference than ovarian cysts. It is now an accepted surgical axiom that the sooner an ovarian cyst is removed after its presence has been ascertained the better for the patient's welfare. Chronic renal disease and, secondarily, chronic cardiac affections, gravely influence the prospects of recovery.

The average mortality of a considerable number of cases operated upon by different gynæcologists is about 10 per cent. Some fortunate and skilful surgeons may have an unbroken list of 15, 20, 50, or even 100 consecutive recoveries, but the general mortality is at present about the ratio named. Ovariectomists and patients should recognise that the improved mortality within the last twenty years, from 25 per cent. to about 8 or 10 per cent., is largely due to earlier

operations. Doubtless antiseptics and improved methods have done much, and probably will still further improve results, but the perfecting of diagnosis of abdominal tumours and their early removal are the main factors of success. Unless operation is submitted to, the patient who suffers from a fair-sized ovarian cyst must assuredly die within a limited time. The longer the operation is deferred the worse are the chances of recovery.

Neither extreme youth nor advanced age is a contra-indication. Children of 2, 3, and upwards have been found to do well after ovariectomy. Old women of over 70 have been operated on with success quite equal to the average.

SURGICAL DRAINAGE OF DOUGLAS'S POUCH.

BY CHARLES BOISLEUX, M.D., PARIS.

THE rational indications for the drainage of Douglas's pouch are: suppurations in pelvic peritonitis, pus in the Fallopian tubes and in the ovaries, abscess of the broad ligaments; breaking up of adhesions due to perimetritis acuta and perimetritis chronica, internal hæmorrhages and all important surgical operations in the pelvis which can bring about a more or less abundant sero-sanguineous exudation. The vessels, veins and arteries, and also the lymphatic vessels, give rise to transudation, and it only requires that the albuminous liquids should be put in contact with a micro-organism to cause infection. It was with this object that already in 1875 Peaslee¹ advised intra-peritoneal washings by Douglas's pouch to cure or to prevent sepsis. He succeeded also in curing three patients out of four attacked by it, and prevented the infection of four other patients who were in danger

¹ Published in the *Journal of Medical Sciences*, January, 1876, New York, page 817.

of sepsis. Marion Sims, Bardenheuer, Martin of Berlin, Maude, and Zweifel have suggested vaginal draining as a prophylactic, and also as a means of treating infection, but since then Sims, Martin, Bardenheuer, Zweifel and many others have changed their opinions and abandoned drainage as dangerous. Still the draining of phlegmonous wounds is a general law in surgery. This is so with a wound or phlegmon in the neck or on the leg or the arm; why then should the wounds in the pelvic cavity be an exception to this established rule of surgery? All surgeons know the advantages which have been obtained by the drain of Chassignac.

From another side one can see the advantages that Peaslee has obtained by vaginal draining and the intra-peritoneal dressing; and that in 1875,¹ at a period when the antiseptic method was still unknown.

For my part I think that with the antiseptic method we should not abandon the drainage, but on the contrary should employ it in all surgery; let us practise it in the surgery of the pelvic cavity as in all good surgery. I prefer the drainage through Douglas's pouch because it is the lowest point of the pelvic cavity, and the fluid can escape better.

Why has vaginal drainage become unpopular? There has always existed and still exists a prejudice against all drainage of the peritoneum by the vagina on account of the possibility of infection.

Loebker² and Delbet³ have made experimental researches on the use of the drain in animals, and they have observed that the drain left for forty-eight hours in its place became surrounded with adhesions. That is true of dogs, but it was different from what took place in a man in whom they had left the drain. However, Dr. Coe⁴ who has performed several autopsies upon patients in whom the drain had been left, has

¹ Peaslee, "Ovarian Tumours," New York, 1877.

² Loebker, *Arch. f. gynaekologie*, Band xix., t. 127.

³ Delbet, *Annales de gynécologie*, Paris, 1890.

⁴ Coe, *Transactions of Obstetrical Society of New York*, p. 613.

always found organised tissue. We have had occasion to drain very often, but we have nearly always found organised lymph, especially in the cases in which we have had deplorable accidents, such as abscesses or gangrenous appearance of the vaginal wound. There is no doubt that these accidents are often due to the blocking of the drain from fibrinous matter, and the cause of its putrefaction is the infection that it brings after it—septic intoxication.

We must, then, prevent at all hazards the organised formation of the clot. It is with this object that I have placed two little cushions (cotton hydrophile) surrounded by gauze, which form at the same time the capillary drain with the drain in tubes. It is only, after all, a modification of the capillary drain of Mickuliez, to which there is added an india rubber drain; in this way the india rubber drain will not become blocked.

Pozzi had an analogous idea when he advised us to place a large drain in the centre of the plug in such a way as to absorb the liquid which was too thick to filter through the gauze. The plug so compressed is hæmostatic, capillary, antiseptic, and like that of Mickuliez.

When in doubt drain.

In my opinion the drain of Mickuliez, or capillary drain applied by the abdomen can give excellent results, but by the vaginal method still better. We have several times remarked that for efficient drainage, especially in the serious cases in which there are recent adhesions, and in which the flow of liquid is not sufficient, there must be a combined drainage, the capillary tube drain of cotton hydrophile with gauze surrounding it.

If one fears the obstruction of a drain the best method is to take it out and clean it as one does with the drain of Chassignac, and replace another iodoform drain.

In the Congress of Gynæcology of the German Gynæcological Society, held at Breslau, May 25 to 27, 1893, Professor Schauta said that it was important to make a bacteriological examination during the operation. If this

examination denotes the presence of micro-organisms, then it is necessary to drain. If this examination shows no micro-organisms, then drainage is not necessary. The bacteriological examination is not sufficient.

Here, then, on this subject are the results of my personal experience: (1) There may be in the pus bacteria which are inoffensive, that is to say, not virulent; as Professor Kalténbach has very well said, in this case the patient is out of danger. (2) The matter may be sterile, that is to say, give no result by the microscopic examination, nor by the culture, nor by the inoculation, and still the wall of the abscess may be virulent and contain bacteria, and give positive results by the sowing and inoculation of animals. These may die in twenty-four to forty-eight hours. I have remarked this fact in cases where I have practised inoculation in animals, even during the operation. In the cases to which I have alluded, two guinea-pigs were injected into the peritoneum with the matter of the abscess, while two others were inoculated in the subcutaneous cellular tissue with a piece of the virulent wall of the sac. The two first, that is to say, those which had been inoculated with the matter, presented no reaction, and were not at all inconvenienced. The two others died four days after the inoculation. In like cases the microscopical examination had not revealed the presence of any bacteria, and still the patient was in danger. (3) A quart of matter, and even more, can be spread in the peritoneum without causing disaster. (4) On the contrary, one drop of virulent matter is sufficient to kill a patient. This is a fact well known by those who have been accustomed to making experiments on animals.

I remember at the time when I followed the clinic of A. Martin at Berlin, he one day performed four laparotomies for disease of the annexes. I inoculated animals with the matter of each of the patients. Thirty-six hours after the operation, I could predict that the second and fourth operated upon ran a great danger, because the animals I had inoculated were very ill. Indeed, the second operated upon was intensely

feverish, but she recovered. The fourth operated upon forty-eight hours after the operation of septicæmia acute at the same time as the guinea-pigs which I had inoculated, &c.

These facts prove what must be the virulence of the matter contained in the pus. Culture permits us also to recognise if the matter used is virulent or not. If, when scattered upon plates of agar-agar, the fourth plate presents 200 to 300 colonies or more after twenty-four hours, at a temperature 37°C ., that proves that the matter is virulent.

In practice it is important to know what to do to protect the patient from infection. The best way, in my opinion, is to act always as if the patient were surely infected before the operation. A very good method is in each case to drain systematically by Douglas's pouch, whether after operation on the annexes, or after any operation which affects the peritoneum. In this manner we permit the passage of all liquids which come from the lymphatics or blood vessels connected with the parts operated on. By not allowing any liquids to remain in the peritoneum we prevent the bacteria finding a breeding place, closed places being very favourable to their development, and in general to their fermentation. The absence of oxygen increases the virulence of the bacteria, and in consequence adds to the danger of infection.

I have employed several sorts of drains—india-rubber, glass, &c.—dipped first in the sublimate solution or carbolic acid. The one I found most practical is the india-rubber drain, plunged during an hour into a solution saturated with ether and iodoform, and afterwards left for twenty-four hours in pure alcohol. These drains steeped in iodoform resist fermentation, and give out no bad smell when they have remained eight days or more in the peritoneum. Why systematic draining? I saw the benefit in a case in which there was an acute infection in a woman 25 years old. The left Fallopian nexes were agglutinated by a perimetritic exudation of red origin, the patient complained of acute pains, and became feverish, to 38.5°C . I made the vaginal section according to my process, and penetrated into the peritoneum by Doug-

I broke the adhesions and left the annexes, which were of normal size, in their places. I made three points of incision and drained with wicks of iodoform gauze. Ten hours after the operation the doctor in charge told me that the patient had shiverings and a temperature of 40°C. I decided immediately to introduce, under chloroform, an india-rubber drain. When I removed the iodoformed gauze there came out exactly a pint of blackish serous fluid, and I found by examination that the adhesions had formed again. I removed them, and introduced an india-rubber drain of seven centimetres in diameter. The fever abated and the patient recovered. After this experience, and several others like it, I decided to drain in every case.

I have made up to now forty vaginal sections for affections of the annexes, for perimetritic exudations, acute and chronic, some having resisted massage, and for fixed uterine displacements, by dividing the adhesions and I have drained in every case, and always obtained good results. In my opinion, draining is indispensable, not only to prevent infection, but also to prevent the adhesions forming again. As to the results, I am of the opinion of Schauta when he says that we can obtain by this manner of treatment good results in both chronic and perimetritic exudations. I myself go further. I give massage on each of my patients operated upon, and I repeat the treatment about fifteen days after the operation. I have remarked that by this means we can make the few adhesions which remain after the operation disappear, and that in this way put the patient quicker on her feet. Most of my patients operated on have conscientiously followed this treatment, and have been much quicker cured than twenty others, who had not been treated by massage. Massage after pelvic operations was employed for the first time by Aubeau and Leblond of Paris. Leblond has made reports to Aubeau respecting patients who had been operated on by vaginal hysterectomy for disease of the uterus. Two years after the operation the patients had no more pains to such an extent that walking was very

painful, and there were persistent exudations round the tissues. These patients were cured after about twenty massings. Leblond has also practised massage on four patients who had been subjected to laparotomy for the extirpation of the annexes, and who felt very severe pains in the abdomen. There was an exudation around the scar. In every case massage has given excellent results.

REVIEWS.

TEXT-BOOK OF THE DISEASES OF WOMEN. By J. GARRIGUES, A.M., M.D. Containing 310 Engravings and Coloured Plates; Cloth; pp. 690. Price, \$4.00. Philadelphia: W. B. Saunders. 1894.

The writer announces that his aim has been to write a practical work—a text-book for beginners, and a manual for experienced practitioners, especially “the large class of physicians who have not had the advantage of hospital training, and who have not attended a post-graduate school in order to learn gynæcology.” Briefly, the book is meant “to satisfy the requirements of the busy physician who must keep abreast of recent progress as best he can in all branches of a general practitioner’s work, but who finds it impossible to leave their practices.” “They cannot find time to study large works; they want information of the present state of gynæcology.” Dr. Garrigues has traced the historical developments of his subject, and discusses those methods of treatment which he regards as the proper ones to follow.

The volume contains a general and a special division. The general division is subdivided into eight parts, viz.: Development of the Female Genitals; Anatomy of the Female Pelvic Organs; Physiology; Etiology in general; Pathology in general; Treatment; Abnormal Menstruation and Metrorrhagia; Leucorrhœa. The special division treats of the diseases of the vulva, of the perinæum, of the vagina, of the uterus, of the Fallopian tubes, of the ovaries, and of the accessory glands, with an appendix on “Sterility.”

It is interesting to find in mind that the book is written as a practical manual. We are a little surprised to find more than a sixth of

the whole devoted to anatomy. The anatomical information had already appeared from the same pen in the "American System of Obstetrics and Gynæcology" at still greater length. We have no fault with the matter of the chapters, except in some most immaterial details; but surely this is hardly the way to start "a concise exposition, up to date" volume of gynæcology. To be perfectly frank, despite its non-necessity, we value the first sixth of the book more than the remainder. Our general feeling is that the volume would require much supplementary teaching to make it fulfil its aim.

To indicate briefly some justification for holding this opinion, we may first refer to the questionable wisdom or good taste with regard to certain expressions, *e.g.*, page 252, referring to hermaphroditism: "A girl with a testicle can, if the sexual appetite awakens, do much harm at a boarding school, and if it does not awaken she (*sic*) may marry without knowing that she, from a physical stand-point, is an unsatisfactory mate." At page 289 appears a chapter on Masturbation—always a difficult subject to treat with delicate circumspection. It was hardly necessary, seeing that at the outset the author mentioned he would omit historical references, to drag in Onan and Tamar. Nor can we recognise the utility of describing, as is done on page 290, the grosser forms of the vice. We give Dr. Garrigues every credit for the courage to undertake an unsavoury, but possibly needful, task, but we trust in another edition the language employed may be in some degree modified. The same remark applies to the description of artificial impregnation (page 659).

Turning now to more stable ground, we will briefly glance, *seriatim*, at some of the more noteworthy points. Under Etiology the opinion is expressed that sexual intercourse with a man who has gonorrhœa, even latent gonorrhœa, is greater than any other danger in producing serious disease in the female. The well-known paper of Noeggerath is referred to. There is much truth in the general statement, but it would have been safer if the writer had stated that one of the greatest factors in the production of diseases of the

ges and uterus is gonorrhœal infection from sexual
se.

are hardly ready to accept the suggestion as to the
of vaginal examination of virgins. When such is
y necessary it is much better, if the hymen is very
administer an anæsthetic in the presence of the girl's
relatives or a nurse, than "to prepare the hymen by
duction, twice daily, of a small tampon of absorbent
aked in glycerine ; by gradually increasing the size
mpon at every change the parts will in a few days be
ly softened and dilated to allow the index finger to
Ve also doubt if family practitioners would increase
ularity by adopting the literal recommendation that
case of catheterisation the meatus urinarius should be
(page 159). In the description of curetting, the nail
nger is recommended as a curette ; it is said to be
ut less efficient than instruments." With the latter
nly agree, for unless the uterus is enlarged it is very
necessary to curette, and if enlarged, it would be
y difficult to make sufficient use of the finger nail
ndus with a finger of average length. In the ac-
ven of ligation of the uterine arteries from the
he difficulties of the procedure must be increased by
f such an instrumunt as Cushing's (fig. 150). It is
necessary to employ it. By reflecting the mucous
e off the cervix at each side, the main trunk of the
rtery can usually be readily felt by the finger, and
urved aneurism needle can be easily passed below it.
nod of Fritsch, (p. 180) makes too much of what is
imple procedure. Of course in vaginal hysterectomy
nised plan of tying the broad ligament in stages will
ved, but if we desire to ligate the uterine arteries
reatment of a fibro-myoma, the artery can be tied
y by the above practically bloodless method.

Garrigues states that massage inside the pelvis and
the abdominal walls is a valuable mode of treatment
diseases of women, especially chronic metritis, cellu-

litis, pelvic exudations, adhesions, hæmatoma and oöphoritis. "Often a general massage of other parts of the body, or of the whole body, is added. In this way exudations, infiltration, hypertrophies and adhesions are made to disappear, weak ligaments and muscles strengthened, and displaced organs brought back and kept in their normal position. The procedures being rather painful, there is no danger of causing sexual excitement. The manipulations are quite complicated, have to be adapted to the special abnormal condition, and can hardly be learned except by seeing them carried out by an expert. Unfortunately (fortunately, we think,) this treatment requires so long sittings (up to three-quarters of an hour!) that a gynæcologist or general practitioner will hardly find time to use it himself, and, on the other hand, such fine diagnosis is necessary, that nobody who has not a large experience in abdominal examinations can be entrusted with it. Despite the support given to this treatment by Reeves, Jackson, Boldt, Vineberg, Profanter and others, we should be unwilling to recommend pelvic massage without more extended testimony and clearer proof than we yet have had afforded us as to the real necessity for, and advantages to be gained from its employment.

There are several new features in the way of internal remedies. "Resolvents are often called for in chronic inflammations." The most important are iodine, gold, and mercury—the chloride of sodium and gold has seemed to the author to have a decided effect, especially in chronic oöphoritis; it is given in doses of gr. $\frac{1}{8}$ to $\frac{1}{4}$, thrice daily, after meals. For hæmostasis in chronic cases, it is claimed that cotton root is superior to all other remedies, whatever the cause of the hæmorrhage may be. The best preparation is a fresh decoction of "three heaping teaspoonfuls of rasped cotton bark, boiled in one pint of water for a quarter of an hour, during which one half of the fluid evaporates. It is then strained, and one-third is taken three times a day. Mistletoe (extract visci albi) \mathfrak{z} i thrice daily, sometimes may afford help when ergot and cotton bark fail." For tubercular patients we have two unusual remedies, terraline (a petroleum product)

and hydroleine (a mixture of cod liver oil, boracic acid "and other substances"), highly recommended.

Internal remedies, such as *aleteris cordial*, *hydrastine*, *cimicifuga* and *inula* (the last is new to us) are said to seem to have the special virtue of checking *leucorrhœa*.

In the treatment of vulvar vegetations, we learn 'The tincture of *thuya occidentalis* is said to be a specific for these growths. They should be constantly moistened with it.' But then comes—"In my experience the thermo-cautery has proved the only radical cure even for small vegetations." Why, if this is so, give us the hearsay evidence regarding an unfamiliar drug?

In the treatment of cancer, "so far no drug has been found that will cure cancer, although from time to time some new specific is praised, even by good observers. Some years ago it was *condurango* bark, then came *Chian turpentine*; next *methyl blue* enjoyed a short-lived celebrity. I have not seen any effect from the use of these substances, but since others have claimed success, and since we must sometimes prescribe something, I add the following formulæ." Then follow the prescriptions for remedies our author has never seen any effect from!

Among the more attractive features of the book, the question of diagnosis and the giving of helpful small details in its management are conspicuous. Throughout, the simpler methods of treatment are given first, then come the more complicated and dangerous; medical treatment has precedence of surgical.

The pathology of gynæcology is treated very briefly, but several illustrations are devoted to this aspect.

We judge that this volume will have a large sale on the other side, and with all respect, we think it might also become popular in England if we had some judicious prunings of excrescences, and graftings from the large knowledge unquestionably possessed by the author. We hope to see another edition, better than its predecessor; there are the bones of an excellent book in the present volume.

L. N.

AN INTERNATIONAL SYSTEM OF ELECTRO-THERAPEUTICS, FOR STUDENTS, GENERAL PRACTITIONERS, AND SPECIALISTS. By HORACE R. BIGELOW, M.D., &c., and thirty-eight Associate Editors. Philadelphia: The F. A. Davis Company. London: F. J. Rebman. Price 34s.

This large volume, of more than eleven hundred pages, represents the united labour of a large number of contributors, and the result is worthy of the talent and enterprise which has produced it.

The majority of the writers are American, two are Canadian, two English, and five French.

The system of paging is similar to that in the "Annual of the Universal Sciences," and certainly this gives some advantage to the reader, as each series of articles is arranged in accordance with the subject matter.

The preface contains many allusions to the marvellous developments of electrical science within recent times, and might well form the basis of a lecture in itself.

Further, we are indebted to Dr. Bigelow for his keenly practical thought as to which form of cell is the best. The voting papers are published, and from them we also get from the associate editors their preferences as to static machines, coils, cabinet, portable and cautery batteries; controllers and meters.

The general scope of the work is so wide that were we competent to deal fully with it, the space at our disposal would not be sufficient.

So far as the work refers generally and particularly to obstetrics, gynaecology, and pediatrics, we have no less than fifteen chapters, a goodly number indeed. Some of them seem to cover the same ground in their aim, as will be recognised by a list of their titles, "Diseases of the Uterus," "Electrical Treatment of Fibroid Tumours," "Discussion of Electro-therapeutics," "Method of Apostoli and others," "Treatment of Disease of the Uterine Appendages," "Engorgement and Displacement of the Uterus," "Disorders of

ation," "Treatment of Diseases of the Female Uterus," "Ectopic Gestation," "Cancer," "Electrothermal Surgery," "The Use of Electricity in Obstetrics," "Galactorrhœa," "Milk Discharges," "Electricity in Diseases of Children," "Adhesions of the Acute and Chronic Inflammatory Disorders of the Pelvis," and ought we not add "Facial Blemishes" and "Orgasmic Climax?"

The list of subjects, imposing as it is, naturally contains many good chapters.

The first line of Cæsar has not infrequently been imitated and rendered by small boys, struggling with the author's observations, thus, "all the Gauls are divided into three classes," so it is with regard to electricity and gynæcology. There are those who believe, or try to believe, in nothing; those who believe, or try to believe, something; and those who believe, or try to believe, nothing.

I shall not confess which of the classes we belong to, but I will be it to express the belief that several of the observations in the foregoing chapters might be characterised in the same manner as our estimate of the small boys' translation of Cæsar.

Opinions are now very widely different from those held by the people a few years ago regarding the electrical treatment of fibroids, but those who are still seeking for information will find the subject authoritatively discussed by MM. Fournier and Famarque, assistants at Apostoli's clinique. Throughout the whole volume we find the methods of Apostoli held in very high esteem.

In adhesions in inflammations of the female pelvis, Dr. Apostoli writes: "To speak dogmatically we may say (1) that electrical treatment finds its greatest usefulness in cases of acute inflammation with exudation of plastic lymph; (2) in chronic processes in which an acute inflammation has supervened the latter is amenable to the same treatment in just the same manner and to the same extent as the simple case without chronic disease; (3) that chronic inflammations and adhesions are rarely benefited and may be

deleteriously influenced ; and (4) that friable unhealthy degenerated deposits are not at all benefited by this mode of treatment."

Now surely simple acute inflammations with exudation of plastic lymph can be treated more safely and with quite as rapid a prospect of recovery without electrical appliances. As Dr. Baldy very properly states, "the use of electricity may be highly beneficial as an agent to relieve pain (far out of proportion to the local trouble) without necessarily influencing the disease itself."

In his chapter on "The Use of Electricity in Obstetrics" Dr. McGinnis discusses "cases that seem to resist impregnation, all organs being normal in both male and female." He "pins great faith upon central galvanization as a means to a successful end." But in addition he prescribes iron, strychnia and phosphorus, and, if possible, sea-bathing. He thinks bi-polar intra-uterine applications "seem to have a very happy effect in bringing an increase of circulation temporarily to the part. There is "no astringent effect of the positive pole on the natural secretions of the endometrium and "no relaxation of *it*" (we do not quite know what this means) "as caused by the negative."

The chapter by Dr. Goelet on "The Treatment of Diseases of the Uterine Appendages by electricity," contains an excellent epitome of the anatomy of the appendages, of current views of the etiology and pathology of these affections, and a full description of his own improved faradic battery. He does not regard the application of the positive pole to the vagina or uterine cavity "as permissible when pus-accumulation in the tube is known to exist." This chapter is written with distinct ability and judicial fairness ; and, although we cannot accept many of the writer's recommendations as better than other and more certain modes of treatment which he has alluded to, we feel satisfied that there can be little added to his advocacy for electricity in certain conditions.

The chapter on "Engorgement and Displacements of the Uterus" follows ; in the book it follows next—but there should

be a long distance between them. Fig. 2 represents "the normal position of the uterus," but even with the bladder fully distended the uterine position is incorrectly figured. A rectal, a vesical and a uterine "exciter" are described. We fail to discern the merits of the chapter; if there be any they are indeed obscure.

There is a lot of "padding" in the portly volume, but so far as we have gone no chapter depends more on adventitious aids than that on "disorders of menstruation." Still it is a nice gossip production, and possibly it might be a useful "holiday task" to commit some of its pleasant anecdotes and references to memory; even the frank confession of "the great gynecologist" who "felt like a fool and had to send the patient away." This story omits to relate if the patient acted like a wise woman and neglected to return. Then the "irascible *confrère*" who "felt far more inclined to pick up the wood axe and chop the battery to pieces than to test the one hundred and twenty connections," may have been a gouty man, or may have been a sensible man, but we *cannot* believe that he had any disorder of menstruation and therefore are unable to account for his appearance.

The chapter on "Ectopic Gestation" is full of the history of the subject; of classifications old and new; of terminations and complications; of duration; of pathology; of etiology; of symptomatology; of diagnosis and differentiation, all brought well up to date. But when treatment—electrical treatment—is approached the chapter weakens and tones down until we find the strength of it is mainly composed of abuse of Lawson Tait! Is there not a proverb about abusing the opposing attorney when one's case is bad?

The chapter on "Treatment of Diseases of the Female Urethra" has the merits of brevity clearness and reliableness.

Dr. Mary Putnam Jacobi writes on "Electricity in Diseases of Childhood." Her work is well done. It is learned without being pedantic, full without prolixity, and in short worthy of the writer's well-earned reputation for thoroughly honest scientific writing.

There are other chapters in the volume we would discuss, but we feel that students of electricity, as a disease, must study the book carefully for themselves.

The letterpress is very good; although the type for the otherwise excellent index is inconveniently cramped.

THE PROCLIVITY OF CIVILISED WOMAN TO DISPLACEMENTS: THE ANTIDOTE (also other titles to Gynæcological Surgery). By M. U. SULLIVAN and L.M. and R.C.S. R.C.P.Ed. Melbourne: St Co., 195a, Collins Street.

This small volume, nominally of eighty-four pages, has been sent to us for review. We presume we are expected to express our honest opinion. The first nineteen pages are filled with Mr. Sullivan's "Antidote" to the proclivity of the civilised woman to uterine displacements. We have never, if ever, read anything like it. There is not a single thought or observation; the grammar, the style, the taste are such that if Mr. Sullivan had submitted his treatise to any literary friend it would either have been "to blush unseen," or have been so altered that it might have been worthy of notice. As a slight example of this kind of thing: "Woman has fallen from her normal state. The evolution of her degeneracy may be divided into three classes: (1) The savage—Australian, Aboriginal, Brazilian (2) The civilised. This is exemplified by the people of the older, less feverish, and less artificial countries, such as Ireland, Scotland, &c. (3) The denaturalised. This is the woman of fashion, comprising all grades of society from the lowliest denizen of the bush to her who frequents the gilded halls"!!!

With regard to modern female dress, "it becomes the duty of the surgeon to render obsolete for ever these systems that are attended with so many and such serious

es to the wearer. Here, we have a field for health and reform, the successful champion of which would more untold benefits on humanity than ever immortal Hunter or a Lister" !!! At page 22 the author breaks the wholesome proverb, "Sublata *causa* tollitur effectus." proof reading, or inaccurate knowledge of Latin, as English, must account for the word we have rendered *cause*. Next follows an essay on "Alexander-Adams' modified, a series of twenty-one cases." One case is described; the writer says he has adopted Edebohl's modification, only dispensing with the drainage of the inguinal twenty-one times with the most satisfactory results in "this instance." No data are given of the other twenty cases. *Causæ causæ* of cancer, read before the Medical Society of Philadelphia, comes next. *Causæ verae* is better Latin, if "true" would not satisfy the author. The most ridiculous and scrappy reference are given—evidently in all haste—and a case of Freund's operation related.

The greater part of the book is occupied with a relation of abdominal section; many of them of considerable value, especially one of "intestinal obstruction three days after confinement—abdominal section." In this a bold operation was successfully practised. If Mr. Sullivan had omitted the misleading title and the first half of his book, and contented himself with a recital of his clinical work, and the *motive* of the publication, we would have been satisfied with the fact that while one not likely "to hide his face under a bushel," he had, at least, some justification for publishing several excellent cases.

Thus, we have probably said quite enough to give a fair opinion of our judgment.

L. N.

PREGNANCY AFTER VENTROFIXATION OF THE UTERUS.

Ventrofixation is a valuable and conservative operation in cases of retro-displaced adherent uteri. One of the proofs of its success is afforded us by the record not only of the patients relieved, invalids restored to health and usefulness. X.—NO. 38.

ness, but ovaries and tubes saved and fertility regained in women who had acquired relative sterility. Several have recorded these happy results.

One of the latest contributions to the subject nancy after Ventral Fixation of the Uterus." A four cases by George M. Edebohls, A.M., M.D, New

We have read this pamphlet with considerable ment. We thought we knew something of "the progress" of new gynæcology. We are aware that Pozz and Martin of Berlin, as well as several American English gynæcologists, advise and practise combinations—but the recital of the foregoing cases surpasses anything we have yet read.

Polypharmacy is usually regarded as a confession of uncertainty of diagnosis. What are we to say of operations—"multiple surgery"—involving from four to six operations, or more, at a sitting?

Edebohls relates of the first patient that she had had four operations performed within six months—five at a sitting, two at the next, and all these despite the fact that she had grave cardiac disease! She had had her uterus removed, her cervix amputated, her round ligaments shortened (one torn away), her right ovary and tube removed, her left ovary fixed to the abdomen, her right kidney fixed to the perinæum repaired. But still the insatiable *furor* was not appeased! In six months more she returned for her coccyx cut out. She was, in truth, a remarkable case for despite the fact that she had a septic pneumonia during her first series of operations, and had lost her life, she was her physiological anxiety to remain a patient, she became pregnant, and unfortunately the pregnancy was allowed to go on. She suddenly died, when seven months pregnant, from insufficiency of the mitral valve. Her physician "was two hours too late for a *post-mortem* section!"

The second case was comparatively simple. She had only four operations at one sitting—anterior colp-

inæorrhaphy, shortening of the round ligaments (one was torn away from its uterine attachment "without action," as happened in the first case), and ventrofixation of the uterus. The curette perforated the uterine wall in the first stage. If the uterus had to be fixed by ventrofixation, many operators would have preferred ventrofixation to shortening the round ligaments. This patient became pregnant, and was delivered at seven months after the operations.

The third case was subjected to curettage, trachelorrhaphy, and ventrofixation—in March, 1893. She delivered instrumentally at term, in July, 1894. The perineum was freely lacerated, requiring five sutures. The fourth patient had her cervix amputated, with colporrhaphy, colpo-perinæorrhaphy, and ventrofixation of the uterus effected in November, 1891. She delivered of a full term living child on February 24, 1894. We quite accept the adage that "the end justifies the means" in certain surgical conditions, yet we venture to dissent from the experienced operators against following Edebohl's example too slavishly. We have had a similar happy result in a term pregnancy following a ventrofixation uteri in a patient who had been a bedridden invalid for years, but from no series of operations at one sitting, or at a number of sittings, was required; and a second case operated in the same way in August, 1892, married March, 1894, and was over six months pregnant. We have, previous to this operation, curetted in other cases, we believe with distinct benefit. Again, we have amputated the cervix, and found a general decrease in the size of the uterus, and no doubt for the ventrofixation we had proposed. We have recently performed colporrhaphies, anterior and posterior, and for the latter we join Edebohls in preferring inæorrhaphy), sometimes as complementary to ventrofixation, sometimes when the descent was wholly or partly vaginal, without fixing the uterus. We feel sure that cases must be most exceptional

which ought to be subjected to such a series of operations sitting as described above. The tearing away of the round ligament from the uterus in two different patients is a note of experience which should be remembered. A case such as the above makes us almost ready to receive a case ere long, on "Removal of the greater Part of both Lungs," post-operation Septic Pneumonia," or on "An Exploratory Section of the Medulla Oblongata for Removal of the Irritating Heat Centre as a preventive of Pyrexia"!

L

MARY OF GYNÆCOLOGY, INCLUDING
OBSTETRICS.

OF BONE MARROW IN THE TREATMENT OF
ANÆMIA, by Dr. J. DIXON MANN. *Lancet*.

Red marrow of bone being probably the chief agent in promoting the development of red blood-corpuscles, it is feasible to suppose that an extract of this substance, introduced into the human organism while in an anæmic condition, might act as a stimulant to the formative process and increase the rate of production of the red corpuscles. To obtain the extract the heads of the long bones, obtained recently killed animals, with other portions of bone containing red marrow, are broken into small pieces and macerated in glycerine with frequent agitation. When the extraction is complete—several days being required—the glycerine is filtered off and is ready for use. It is red or brown in colour, and is devoid of any unpleasant odour. It may be given in tea-spoonful doses once or twice a day either out of the spoon or spread between thin slices of bread.

The first case in which I tried the extract was that of a child, the subject of hæmophilia. This child had repeatedly been in the hospital under the care of one or the other of my colleagues, or of myself, for attacks of hæmorrhage. On each occasion the bleeding ceased; but the patient never recovered from pallor or pronounced anæmia, although he was treated with cod-liver oil, and all kinds of appropriate nourishment. The last time that he was admitted, the red corpuscles counted after the hæmorrhagic symptoms had sub-

sided, and were found to be 3,800,000 per cubic millimetre. The patient was then (September 13, 1893) put on marrow extract without any other treatment, and after an interval of three weeks the corpuscles were again counted; they numbered 4,190,000, and one month later they numbered 4,400,000. Coincidentally with this increase there was a marvellous improvement in the appearance of the patient's face, which acquired an amount of healthy colour never observed during his many visits to the hospital.

In a second case, that of a young woman, 20 years of age, with long-standing anæmia, the corpuscles numbered 1,350,000 per cubic millimetre; after taking the marrow extract for three weeks they increased to 4,000,000. She then was discharged from the hospital. In another anæmic girl the increase in the number of corpuscles was from 1,350,000 to 3,680,000. A man was admitted with profuse hæmatemesis; after the bleeding ceased the corpuscles were found to be reduced to 1,070,000 per cubic millimetre. He was put on marrow extract with iron treatment, and, when counted on the fifteenth day, the corpuscles numbered 3,050,000. I am encouraged by many other favourable results to direct the attention of the medical profession to marrow extract as an agent capable of rendering a valuable aid in the treatment of anæmia, and also of cases due to loss of blood from causes such as placental hæmorrhoids, and wounds.

TO INCREASE THE ANTISEPTIC POWER OF SOLUTIONS OF SODIUM CHLORIDE. *Lo Sperimentale*, No. 8, 1894.

Dr. H. Panfili, finding that solutions of corrosive sublimate have not the antiseptic power attributed to them, he has sought to increase the activity of this antiseptic by the addition of various substances. Laplace and Behring suggested the addition of 5 per cent. of tartaric or hydrochloric acid, while Schneider advised the chloride of sodium. *Dr. Panfili* finds from his experiments that the addition of either hydrochloric, tartaric, or sulphuric acid increases the

power more than that of the chloride of sodium. The relative augmenting power of these substances increases from sodium chloride, through hydrochloric and tartaric acids, with sulphuric acid as most efficient.

BLOODLESS VAGINAL MYOMECTOMY. *Journal American Medical Association*, July 21, 1894.

Dr. Oscar J. Mayer describes an operation of "Bloodless Vaginal Myomectomy." The patient was aged 28, primipara, was the subject of fibroid tumour of the uterus. Dr. Mayer thus describes his procedure, and the subsequent history:—

"The idea suggested itself to me to try and prevent, or to reduce hæmorrhage to a minimum, by passing a temporary ligature *en masse* around the uterine artery. The vagina having been thoroughly irrigated with a 2 per cent. solution of lysol and a Martin posterior speculum *in situ*, the field of operation was still further enlarged by retractors. With a strong volsellum forceps seizing the tumour, tumour and uterus were strongly pulled downward and to the right side in order to bring into view the vaginal junction of the cervix. With a large, strongly curved needle, threaded with a double thread of No. 12 braided silk, a ligature *en masse* was applied around the uterine vessels, by entering the needle well anteriorly to the transverse median line of the fornix, bringing it out equi-distant posteriorly to that line, and the two ends of the ligature were then securely tied. The uterus, including the tumour, being strongly pulled toward the left side of the patient, a temporary ligature *en masse* was applied to the uterine vessels on the right side. Morcellation of the fibroid was proceeded with by means of a pair of Sims' scissors, guided by the finger, which resulted in bringing forth forty-eight small pieces of the tumour until sufficient room was made to deliver the large remaining mass by traction. The weight of the tumour was nearly four pounds. Before the operation the tumour must have measured six and one-half inches in diameter. This was ascertained by enveloping the removed pieces

in a towel and measuring the circumference of the mass. The uterine cavity was packed with iodoform and the temporary ligatures were removed. Patient received two hypodermic injections of ergotin. The time required for the operation was one hour, during which time the patient did not lose more than two or three table-spoonfuls of blood. Twelve hours after the operation the intra-uterine tampon was found forced out of place to more than half its extent. It showed very little bloody discoloration. The second day after the operation the remainder of the tampon was removed and as a precautionary measure the patient received a hypodermic injection of ergotin. Patient was kept in bed for twelve days, passing an uneventful time toward recovery. Her temperature at no time rising above 99.2 on the evening of the operation. On the twelfth day patient left her bed feeling well, valescent, rapidly gaining in weight, until now she has increased in weight twenty-six pounds."

The theory of the method is that by securing the uterine arteries, the collateral circulation between them and the ovarian arteries is temporarily arrested, and the blood supply to the lower uterine area thus cut off. It will be seen that the hæmostasis is secured by temporary ligature. I doubt if this plan would be found invariably necessary.]

RUPTURE OF THE UTERUS, BY MAGNUS A. TAYLOR.
Read before the Cincinnati Academy of Medicine,
23, 1894. *The Cincinnati Lancet-Clinic*, May 1894.

This paper contains little that is not well known. A good recent summary is worth perusal. A new table of one hundred cases collected by the author accompanies the paper.

Rupture of the uterus, next to rupture of the placenta, is far the most dangerous and fatal complication that may meet with in the pregnant state (Ramsbotham).

(1) The rupture may be very small, involving only a portion of the muscular wall, and occurring without the knowledge of the attending physician.

(2) It may extend down to the peritoneum, through the entire muscular wall.

(3) It may extend through both the muscular wall and the peritoneum.

(4) A very rare (and doubtful) variety, consisting of numerous fissured lacerations of the external tissue proper of the uterus, immediately beneath the peritoneum, which may give rise to sub-peritoneal hæmorrhage.

The following case is an example of the third variety, where both the muscular wall and the peritoneum were ruptured. The rupture in this case occurred during the fourth pregnancy.

Mary G., white, age 28, residence, city ; good physique ; height, 4 feet 8½ inches ; first menstruation occurred at sixteen years.

First Confinement.—At the City Hospital. On March 4, at 3 a.m. she was taken in labour, having had irregular pains for three days. At 1.15 p.m., forceps applied and a dead child delivered at 1.40 p.m., placenta expressed at 1.45 p.m., and at 6 p.m., pulse 88, temperature 98.2°.

Second Confinement.—November 3, 1883. Upon examination he discovered a foot presentation. Podalic version was performed. The child lived and the mother soon regained her health.

Third Confinement.—At this time she gave a history of rheumatism since her last confinement. Upon examination quadrant, cervix long and œdematous and external os open. Foetal heart 144, mother's heart 84. August 28, 1885, at 5 a.m., taken with severe labour pains, but had had pains all night, and upon examination head was found presenting above the brim. At 10.20 a.m., head being in the same position, A.C.E. mixture was given, and Dr. Allen, not succeeding in applying the forceps, performed podalic version. It required five minutes to extract the head. The child weighed 8½ pounds, and was twenty inches in length. On September 15, mother and child discharged in good condition.

Fourth Confinement.—In labour for two days, when

examination discovered the contraction of the diameter. Upon external manipulation it was found a child was in the abdominal cavity, and upon vaginal examination the rent in the posterior wall of the uterus was distinctly felt. Gastrotomy was performed, child was extracted, abdominal cavity washed out, part of it was sewed as far as could be reached, and the abdomen closed. Stimulants were freely given, but all our work was in vain, for she succumbed at 8 p.m.

I have followed out Ames' plan in the group of cases, which have occurred since 1881.

Frequency.—The following shows the number of cases reported by various authors :—

Bandle	19 in	40,614—1 in
Jolly	230 in	782,741—1 in
Lehmen	3 in	7,000—1 in
Guy's Hospital	19 in	40,614—1 in
Dresden Guyn. Clinic	5 in	6,100—1 in
Churchill... ..	85 in	113,138—1 in
Carl Braun	37 in	87,074—1 in
Harris ... ..	...	1 in
Hicks ... ..	...	1 in
Ingleby ... ..	...	1 in
Burns ... ..	...	1 in

My father, Dr. John H. Tate, had 4,700 cases with only one case of rupture.

From this collection of cases there are twelve cases of rupture in 31,272 cases of labour, or on an average 2,606 cases.

Predisposing Cause.—Rupture occurs far more frequently in multiparæ than in primiparæ, as the following table of reported cases shows :—

Harris reports	31, all multiparæ.
Radford "	19, nearly all multiparæ.
Churchill "	102, nine-tenths multiparæ.
Ames "	60, 57 multiparæ.
Bandl "	564, 500 "
Tate "	31, 27 "

Collins says that for a long time he was of the opinion that women in first labour were rarely liable to this accident, but his experience has convinced him of his error, a

four cases of rupture in which seven were primiparæ. Botham said that he had known only two instances in which it happened during a first labour, while Tyler Smith says that rupture is as common in primiparæ as in multiparæ. The excessive stretching of the uterine wall weakens it, and makes it liable to rupture (Spiegelberg). Multiparæ have more pendulous abdomens, and this causes a thinning and stretching of the cervix.

Middle-aged women are most liable to rupture of the uterus. Playfair gives the age from thirty to forty years; from twenty-nine to thirty-seven, based upon thirty-five cases. Trask gives the average age as twenty-four based upon the following table:—

15 to 20 years	...	...	...	...	...	10 cases
20 to 25 "	...	...	...	...	...	21 "
25 to 30 "	...	...	...	...	...	61 "
30 to 35 "	...	...	...	...	...	38 "
35 to 40 "	...	...	...	...	...	46 "
40 to 47 "	...	...	...	...	...	10 "

Trask gives the average age as forty. Males cause rupture more than females, as can be seen by the following collected cases: Collins, 34 cases, 23 males; Evans, 20 cases, 15 males; Bandl, 13 cases, 10 males. Males, as a rule, are larger than female children; their pelvises are larger, more resisting, and do not so readily adapt themselves to the conformity of the pelvis. The longer the labour the more liable to rupture, as Dr. Trask's table so admirably shows, based upon twenty-four cases:—

Labour.	Deliveries.	Ruptured.	Proportion.
Within 24 hours	13,412	7	1 in 1,916
7-24 "	2,174	10	1 in 217
Above 24 "	264	7	1 in 38

From Trask's collection we have the following, based upon 100 cases:—Within 6 hours, 13 cases; 12 hours, 7 cases; within 18 hours, 5 cases; 36 hours, 2 cases; within 3 days, 1 case; within 7 days, 1 case.

The predisposing cause of rupture nearly always depends upon a diseased condition of the pelvis, uterus or child.

Radford claims by his reports that a small antero-diameter is the most frequent predisposing cause of this being the case in eleven out of his nineteen cases. The uterus may be in some abnormal position, or there may be growths in its walls as fibroids and cancerous masses; there may be a weak portion of the wall, where a former incision has been made in performing Cæsarean section (Harri-son's nine cases where this occurred); the os may be very small. The uterine walls may have undergone fatty degeneration, and partial atrophy. A great amount of liquor amni, breech presentation, as of the child's shoulder, and a hydrocephalus head are very prominent predisposing causes. In Simpson's report of 74 cases, hydrocephalus was the cause in 16 cases. Ames grouped the following causes, based on 98 cases:—

(1) Deformed pelvis, 15 cases—in 10 a small antero-posterior diameter of the superior strait; in 5 a contracted pelvis.

(2) Disease of uterine tissue, 14 cases—4 softer than normal; 4 fatty degeneration; 4 weak wall; 1 a cancerous wall; 1 cancer in wall; 1 follicular disease of uterine wall; 1 thinning, with hydrocephalus.

(3) Hydrocephalus, 6 cases.

(4) Traumatism, 18 cases.

(5) No definite cause, 45 cases.

The *exciting* causes in the order in which I think they ought to be placed are as follows: (1) Ergot, (2) forceps, (3) version.

(1) Ergot. Bedford, of New York, has in his collection 4 cases of ruptured uterus caused by the use of ergot, while Meigs has reported 3, and Jolly 33.

(2) Forceps. Jolly gives from his collection 37 cases caused by the forceps.

(3) Version and other operations upon uterus and injury inflicted from without, will not cause a rupture unless there exists some diseased condition of the uterine wall.

ology.—The uterine walls increase from one-fourth or one inch to one and two inches in thickness. During contractions the muscular fibres contract, and should they not accomplish their object they soon become fatigued and relax. After a violent contraction, if any injury be inflicted, the relaxed fibres are liable to be torn, and this occurs in the direction of the longitudinal fibres of the uterus, usually about the junction of the cervix with the body.

It has been shown that nearly all ruptures begin in the lower part of the uterus, and are preceded by an abnormal thinning and distension of that portion of the uterus situated between the ring of the os externum and the os internum.

Rupture of the fundus is very rare, it may take place in various abnormal conditions, such as in a one-horned uterus, in the presence of myomata, when cicatrices exist as a result of a Cæsarean section, when violence is inflicted on the abdomen, or the uterus externally, in retrograde changes of the position of the wall, and when the hand of the attendant is roughly pressed into a thinned uterus in endeavours to turn the

vagina may be torn about the same time as the uterus, it is impossible to tell where the tear originated. The frequent seat of partial laceration is near the cervical os, and is often converted into a complete rupture. Carl Zeigler, among 87,074 cases of labour, has observed 37 cases of rupture, and in all cases the rupture commenced at the os and extended either to the body of the uterus or vagina. The peritoneum has so seldom been ruptured that there is at least only ten well-authenticated cases in which this has occurred. This complication seems to be due to deficient strength of the peritoneal fibres.

The seats of rupture are generally located as follows:—during gestation, nearly always at the fundus or in its vicinity; during labour, at or about the neck; during labour, when violence is inflicted, at the injured part; and when we have a contracted pelvis, at or nearly opposite the deformity. In Trask's table we get the following situations: during

gestation in 25 cases, fundus and body 17 cases, and 8 cases ; during labour, at the fundus in 17 cases, in 71 cases, in the cervix 110 cases.

In another report of Trask's, based upon 40 gives during labour rupture of cervix in 55 per cent of body 36 per cent., and rupture of the fundus in 9 of cases.

The *American Journal of Medical Sciences* gives tracing, based upon 198 cases : during labour, at the cervix in the body 71, in the fundus 17.

The peritoneum is not always involved. The uterus may be ruptured from fundus to cervix and the peritoneum escape. The blood, not being able to flow into the abdominal cavity, forms an hæmatocele. A complete perforation is most frequently situated at the posterior, and near the anterior wall of the cervix, partly because peritoneum is further, and partly because it is more intimately attached to those portions than at the sides of the cervix. Transverse tears generally predominate over the longitudinal. They are usually caused by shoulder presentation, or when the fetus is of disproportionate size, while the circular rents are the most part in contracted pelves.

Trask gives the direction, based upon 52 cases, as follows : The rupture was transverse in 23 cases, longitudinal in 19, oblique in 7, circular in 1 case.

Radford, in 19 cases, gives transverse 3, longitudinal 12, oblique 3, circular 2.

Ames gives the following, based upon 61 cases : in 15 cases it was posterior, in 15 cases it was anterior, in 15 cases it was on the right side and 9 on the left side.

Hoffmeier published a case showing how the cervix may be ruptured by the head of the child lying more on one side than on the other, the pressure being unequally distributed, and the cervix being thus dilated in an unsymmetrical manner, at last gave way.

The length of the rent cannot be definitely stated. The length of the rupture, after delivery has taken place, is con-

than before the uterus was emptied. The edges of are jagged, thin and infiltrated with blood. Should an survive, there is generally marked sloughing of es around the rent. If the opening be a small one head is driven down rapidly, followed by the trunk, of the child need leave the uterine cavity, and can then take place through the pelvis. A twin been known to have been born without any trouble, or a considerable rupture has occurred with the first he placenta, as a rule, gives very little trouble, and e expelled into the abdominal cavity or through the to the vagina. The blood may pass per vaginam, largest collection generally flows into the abdominal mixed with liquor amnii and meconium, so if no measures are adopted, septic peritonitis may super-

ure may occur with any labour, and at any time, and gives the following table, based upon 147 cases, the time after the beginning of labour when rupture

hours and less ...	...	...	...	...	...	38 cases
" ...	...	...	...	...	...	36 "
" ...	...	...	...	...	...	10 "
" ...	...	...	...	...	...	20 "
" ...	...	...	...	...	...	16 "
" ...	...	...	...	...	...	54 "
days ...	...	...	...	...	...	11 "
" ...	...	...	...	...	...	2 "

taneous rupture of a pregnant uterus is one of the ents ; the instances in which it is said to have taken ring the first half of pregnancy are extremely doubt- are all of those belonging to the latter half quite (Siegelberg). In exceptional cases labour follows so after rupture that the child can be born *per vias* . Such a case occurred under Keppner; the pla- s followed by a mass of coils of intestine, which were and held back by a tampon. Baudelocque reports hich occurred as early as the second month of utero- . Blind (*Centralblatt für Gynäkologie*) draws the

following conclusions, based upon a study of 22 ca pregnancy.

- (1) Rupture was constant in fundus.
- (2) Frequently there is found a marked thin neighbourhood of the tear.
- (3) With relative frequency, the point of rupture with the placental attachment.
- (4) The tubal cornua, when this gives attachment, are relatively disposed.

Symptoms.—The premonitory symptoms are never characteristic, although Byrne lays great stress upon a spasmodic pain which passes through the upper part of the sternum and back to the spine. The symptoms of complete rupture, as a rule, are very well marked. The pain from severe bearing down and stretching of the uterus and pain constantly increases until the time of rupture, when it often announces itself by a loud tearing noise (?) vomiting and syncope may precede rupture, and the vomited matter consists first of the contents of the stomach and then of blood coming dark, coffee-coloured, and may have a faecal odour. At the moment of rupture the agonising pain ceases, there is a marked tremor of the whole body: the patient now is in a state of collapse, the skin becomes moist, pulse weak and irregular, respiratory movements first accelerated and then soon become long and of a sighing character. There is a marked change in the conformity of the abdomen, and at the moment of rupture the child passes into the abdominal cavity, and upon external manipulation it may be felt. The foetal heart, which has hitherto been audible, ceases to appear, and almost immediately the child is seen to protrude violently, but this lasts only a few moments. Upon external examination we can feel the receding part, which at the moment before rupture, was pressing violently down upon the abdominal strait, and one or more coils of the umbilical cord may be felt, having passed through the rent. In many cases of rupture the diagnosis is not always made, for the symptoms are often very obscure. The child does not pass

nal cavity, so there is no change in the conformity of
ominal wall, but we may have severe hæmorrhage
e vulva, and marked vomiting, and upon vaginal
ation the rent may be discovered.

in incomplete and complete ruptures varies much in
nsity. Trask gives the following, based upon 156

46, or 29·5 per cent.,	pains very strong.
39, or 25 "	" "
46, or 29·5 "	" "
11, or 7 "	" "
14, or 9 "	" "

s gives the following, based upon 35 cases :—

12, or 34·5 per cent.,	pains very strong.
5, or 14·3 "	" "
6, or 71·1 "	" "
8, or 23 "	" "

lications.—We may have the following serious com-
ns :—

Rupture of bladder and rectum.

Secondary infiltration of connective tissue with urine.

Strangulation of coils of intestine in the contracting

Hæmatocele and pelvic emphysema.

mosis.—The foetus remaining in its normal situation
rapidly extracted after rupture has taken place, gives
ter prognosis than when the foetus has escaped into
ominal cavity, or has been removed by version and
d, or by laparotomy. The hæmorrhage may be
nil externally, and very considerable internally, pro-
marked symptoms of collapse. Shock and hæmor-
ay cause death, but when septic metritis and peri-
et in, a fatal termination usually results. Dr. Galabin
at should the peritoneum be involved the result is
atal, but he takes a somewhat graver aspect of this
complication than do most authors. Should the tear
ce upon the anterior surface of the uterus, the chances
ery are less favourable than if the uterus were torn in

any other situation. Dr. Green, of Boston, lays great stress upon the escape of the liquor amnii, and says should this occur before the rupture takes place, so that none of the contents of the abdominal cavity, the chances of recovery are greatly increased.

The death of the child is almost certain.

Hugenberger estimates the mortality of women with a ruptured uterus to be 95 per cent., and Carl Braun at 80 per cent.

Byrne collected 98 cases, with 11 recoveries, or 1 in 9 cases. Ames collected 98 cases, 32 recoveries, or 1 in 3 cases. Radford collected 19 cases, 3 recoveries, or 1 in 6 cases. Tate collected 31 cases, 3 recoveries, or 1 in 10 cases.

In Jolly's collection of 580 cases there were 100 recoveries, or 1 in 6; while Harris gives a mortality that is still less wonderful, he making a collection of 43 cases, in which 17 women were saved, or 1 out of every 2.

Preventive Treatment.—When a woman is suffering from undue stretching and tearing pain of the second stage of labour, it is our duty to try and relieve this pain by the use of some anæsthetic.

There is only one treatment for all cases of a ruptured uterus, whether the child has or has not passed into the abdominal cavity, and that is laparotomy (?). If the child has not passed into the abdominal cavity, it is either by forceps, turning or craniotomy; and if the child is being extracted (never expressed), we always find on vaginal examination that clotted blood, liquor amnii, and meconium have escaped into the abdominal cavity. If the child has escaped into the abdominal cavity, the treatment is to introduce the hand through the already existing rent to grasp the feet of the child, and by great force to enlarge the tear, enlarging the rent and producing less shock.

Schröder advises after extraction of the child to use *naturales*, to irrigate through the tear by passing a drainage tube and leaving it, and to keep the prolapsed intestines in place by the use of a tampon of carbolized gauze. I cannot see how such a measure can accomplish the desired result, namely, a dry, clean abdominal cavity.

Deciding to make a gastrotomy, an abdominal incision six inches in length is made in the median line; the placenta (if in the abdominal cavity) and child are extracted, the abdominal cavity is thoroughly flushed with warm water, and if the rent be found upon the anterior surface, it is sutured up, but if it be upon the posterior surface, and there be no way to stop the continuous flow of blood into the abdominal cavity, the question will arise, should Porro's operation be made, which I think is the proper measure to be adopted. Braxton Hicks said that when a rent was so large that the escape of the intestines occurred through it, that in such a case the best plan was to perform Porro's operation, rather than to leave the case to its almost inevitable fate.

Knapp drew the following conclusions from the five cases coming under his charge in Dresden (1886). When a child escaped into the abdominal cavity, or when the condition of the patient is critical from profuse hæmorrhage, extensive laceration, &c., always make a laparotomy.

Knapp collected 580 cases, and the results of treatment were as follows:—

Expectation, 144 cases; 142 deaths; 2 recoveries; percentage of recoveries, 1·45.

Extraction *per vias naturales*, 380 cases; 310 deaths; 72 recoveries; percentage of recoveries, 19.

Gastrotomy, 38 cases; 12 deaths; 26 recoveries; percentage of recoveries, 68·4.

In the 31 cases I have collected the following treatments were practised:—Version performed in 4 cases; forceps employed in 1 case; forceps failing, followed by version, 2 cases; craniotomy in 6 cases; *per vias naturales* in 5 cases; craniotomy performed in 2 cases; Porro's operation in 1 case; trepan used in 1 case; 1 in 7 recovered.

The question may arise as to what should be done in the case of a woman who has recovered from a ruptured uterus and becomes pregnant again. Hegar advises us to let her go to full term, and at the first indication of labour to perform a Cæsarean section, while Battlehner advises the in-

duction of premature labour. The latter method of treatment, in my opinion, should always be resorted to, as I do not think a uterus that has once been torn can ever stand the contraction of the second stage of labour without rupturing a second time." Manifestly the author does not understand Hegar indicates section before "the violent contraction of the second stage."

THE ETIOLOGY OF PUERPERAL FEVER. *Public Health* vi., No. 9, June, 1894.

An important discussion was opened by Dr. Herman at the meeting of the incorporated Society of Medical Officers of Health on May 21.

After discussing the significance of the term puerperal fever and describing its diverse forms—septicæmia, septic intoxication or putrid intoxication, or supra-puerperal, in which the poison is a chemical one proportionate to the amount of septic poison, and remarking that these diseases are known to be produced by micro-organisms, probably different organisms produce different forms of disease, Dr. Herman discussed the etiology of puerperal fever.

Herman combated the terms heterogenetic and autogenetic, made classical by Robert Barnes, maintaining that this classification was delusive because "(a) this so-called distinction, if it can be made, in no way affects prognosis or treatment; (b) if there be such a thing as 'self-infection' with septic poison, we cannot in any way distinguish an infected case from one not so arising; (c) all our knowledge goes to show that when antiseptics are employed no such thing as 'self-infection' occurs.

"The cases which Semmelweiss thought instances of infection were simply cases in which the patients were infected with septic poison because the very rough antiseptic methods introduced by him failed.

"Certain causes of autogenetic puerperal fever have been specified. Some of them are conditions capable of pro-

slight febrile symptoms. But they exist equally in lying-in hospitals in which antiseptics are used, and outside them. But when antiseptics are used the illnesses they produce are trivial, so that no one would apply to them the terrible name of puerperal fever."

These causes were briefly cited under the heads of (1) errors of diet, (2) malaria, (3) chills, (4) bad hygienic surroundings, (5) emotion, (6) strumous diathesis, (6) effects of sewer gas. The last head was more fully treated than the others. "The theory that sewer gas may produce an illness like septicæmia rests entirely on one kind of evidence, viz., that of isolated cases which seem to be septic, but were thought not to be because the physician who reported the case could not discover a definite source from which septic poison might have been carried to the patient, but (*b*) did find some drainage defect. Now (*a*) the fact that the source of septic infection was not found does not disprove its existence. I take these cases to have been simply septicæmia, in which the source of infection was not found.

"But (*b*) does poisoning with sewer gas produce septicæmia, or anything like it? What illness does sewer gas produce?

"I can find little definite information as to the actual effects of sewer gas. The opinion of those who have given most attention to sanitary science seems to be that, to those who are seeking for causes of disease, sewer gas is a kind of 'refuge for the destitute,' to be invoked when nothing else can be found."

Dr. Herman further stated—"I know of no report as to the course of a number of lying-in women delivered where sewer stinks were present, but defended by antiseptics from septic poisoning. This is the kind of evidence we want, and until we have it opinions as to the effects of sewer gas on the lying-in can only be speculative.

"Puerperal fever is one of several morbid conditions which, in the absence of knowledge, have been ascribed to defective drainage."

Summary.—(1) Puerperal fever is produced by micro-

organisms, which get into the system through wound in child-birth.

(2) These organisms are transferred by contact, not inhaled or swallowed.

(3) The transference of organisms is prevented by cleanliness, and the organisms are killed by antiseptics.

(4) The hands are the usual poison bearers; next to the clothing, the quency clothes and instruments.

(5) Investigation of a particular outbreak of puerperal fever should begin with inquiry into the precautions taken by doctors, nurses, and midwives to secure the cleanliness and disinfection of their hands, clothes, and instruments.

(6) There is no such thing as self-infection with puerperal fever. The causes supposed to produce "auto-infection" in lying-in women defended by antiseptics from septic poison, only trivial illnesses.

(7) The inhalation of sewer gas causes in the puerperal woman the same symptoms as in other persons; there is no good evidence that, in women defended by antiseptics from septic poisoning, it produces symptoms like those of typhoid or septicæmia.

(8) The poison of erysipelas of the skin produces in women erysipelas of the skin, and no other illness. The poison of the disease known as phlegmonous erysipelas of the cellular tissue produces puerperal fever.

(9) The poison of scarlatina produces in the puerperal woman scarlet fever and no other illness.

In the ensuing discussion Dr. Williams, of Boston, U.S.A., "thought those of them who attributed their puerperal fever to sewer gas had far better look to their own hands and the hands of their nurses. There was one question which Dr. Herman had not considered quite so fully as he would have liked—that was the question of auto-infection; the question was, of course, one of definition. If an absolutely healthy woman got puerperal fever they could only say the infection had been brought from without, but there would be cases of women in abnormal conditions where it

difficult to say whether the fever originated from organisms within or whether it was brought from without. He referred particularly to infection by the gonococcus, &c. He thought they must admit that in certain cases women might have fever from auto-infection, not from air or anything like that, but from organisms within them."

The speaker went on to refer to the practice of douching, and condemned the routine practice of douching in normal cases. He "thought that in private practice they would do far more harm by douching in all cases than in none."

Dr. Cullingworth generally concurred with the views of Dr. Herman. If there was one point in Dr. Herman's paper which he thought might with advantage have been elaborated a little, it was the point which Dr. Williams referred to—viz., the question of autogenesis. There were cases on record where patients after delivery had fever and died, and after death there had been found disease in the uterine appendages. These cases were probably instances of infection received by the patient *ante-partum*.

The rejoinder, which was made by Drs. Sykes Willoughby and Parkes, was practically anticipated and replied to in advance by the reader of the paper.

There can be no doubt that many cases of illness attributed to sewer gas are not due to this cause; but, on the other hand, many cases of septicæmia are theoretically referred to manual septic poisoning without any definite proof. The great balance of probability is with Dr. Herman, but it yet remains for some one to definitely settle the question.

L. N.

SYMMETRICAL PERFORATION OF THE LABIA MINORA
DURING DELIVERY, by Dr. MAYGRIER, *Journal de
Méd. de Paris*, April 22, 1894.

The patient, aged 24, was practically a primipara, as she had previously had an abortion at five months. When seen, she was in labour; the labia minora were large and triangu-

lar. The head of the child was expelled rather suddenly, the perinæum was found covered with blood. The child delivered, the vulva was cleansed, when the perinæum was found intact; but on each side there was a tear in the skin, large enough on the inner surface to admit the tip of the finger; and on the outer surface forming merely a notch. There was healthy tissue between the rupture and the hymen. Maygrier discusses the production of this lesion; (1) Sécheyron has explained it as due to the stretching of the skin in giving way at their weakest part; (2) Budin has explained that it may result from a continuation of a tear in the skin from the hymen. In Maygrier's case, where the perinæum separated from the vaginal orifice by untorn tissue, the mechanism of production was probably that described by Sécheyron. Union does not take place well in the perinæum because of the friableness of the tissues, and because the elasticity tends to keep the edges of the tear apart.

A.

MYELOID SARCOMA OF LOWER JAW. RESECTION WITHOUT INCIDENTS, IN SPITE OF THE EXISTENCE OF A SIX MONTHS' PREGNANCY, BY F. TAHIER. *Journal des Sc. Méd. de Lille*, 1894.

The report of this case, interesting to the general surgeon, is also of special interest to the obstetrician, as showing the possibility of the performance of a serious operation in a woman six months pregnant, without causing abortion. The patient was 36 years of age. She had observed a little swelling at the symphysis of the chin, between the lip and the chin, a year before. This enlarged to the size, at the time of operation, of a large mandarin orange. The tumour occupied the whole of the body of the lower jaw, between the insertion of the two masseter muscles. All this portion was removed. A curved steel wire, with its ends inserted into the two fragments of bone that were left, prevented the falling together

and a piece of silver wire fastened to this steel arch passed through the base of the tongue and made to the place of the genioid muscles.

patient made a good recovery. Four months after hospital she was seen; she had been delivered at the and the child was in good health.

A. E. G.

L. TUBERCULOSIS OF GENITAL ORIGIN. CURE. AMYLOID VISCERAL DEGENERATION. DEATH. By G. LEMIERE. *Four. des. Sc. Méd. de Lille*, May 1894.

natural history of pelvic-tubercular disease is well Dr. Lemièr's excellent report of this case, on which an autopsy. The woman, aged 53, had died of disease. Liver, spleen, and kidneys showed amyloid disease. The lungs, œdematous and emphysematous, presented, as sole relics of a former tubercular disease, two calcareous nodules, in the right apex. Pleura thickened and adherent. Pelvic peritoneum thickened and adherent. Body of uterus very small, bound down to rectum and sigmoid, and only 3 cm. long: whole uterus barely $5\frac{1}{2}$ inches. Right broad ligament had three small nodules. Fallopian tube on the right side seemed represented by a fibrous cord 2 to 3 cm. long, ending in a rounded body the size of an almond, representing the ovary, but so advanced in a mixed amyloid and calcareous degeneration that further examination was impossible. A somewhat similar condition existed on the left side, but the tube was nearly normal.

History was apparently this: at first there was tuberculosis of the genital organs, probably coincident with incipient tuberculosis in lungs and pleuræ. A pelvic peritonitis followed, which gave place to general peritonitis.

This was a case of general tuberculosis which had been cured, but, in curing, had killed the patient. For the duration of these lesions must have been slow, and mean-

while caused the development of amyloid degeneration in the viscera. To determine whether the caseous material still possessed virulent qualities, some of it was introduced into the peritoneal cavity of a guinea-pig. The animal showed no symptoms for three months. It was, however, kept under observation ; and died suddenly 97 days after inoculation. The autopsy showed a general tuberculosis, of lungs, spleen, and especially of the liver.

The demonstration was therefore complete ; the tuberculosis was indisputable, and in spite of the little encysted focus, in process of calcareous transformation, it may be said that the tuberculosis was healed. But it had left behind in the organs secondary alterations, of the amyloid order, too far advanced to be compatible with a long survival.

A. E. G.

PAINFUL MENSTRUATION, by CHRISTOPHER MARTIN.
Birmingham Medical Review, June, 1894.

This paper, read before the Midland Medical Society, is suggestive and practical. Mr. Martin divides cases roughly into two groups—(1) Uterine, where the fault lies in the uterus itself ; (2) Extra-uterine, where the fault lies outside the uterus, for example, in the uterine appendages. As a rule, the pain in the latter group is pre-menstrual ; in the former, it is menstrual.

A third group, perhaps, demands a place, viz., cases absolutely unconnected with pelvic disease. But inasmuch as this must necessarily be diagnosed by exclusion, and as, with more complete knowledge and more exact methods, cases in this group might more and more be transferred to the others, Mr. Martin probably shows wisdom in not dealing with it.

He discusses three causes of the pain, viz., congestion, spasm, and neuralgia.

Treatment falls under the division of (1) General tonics and hygiene ; (2) Rest, and local application of heat to

abdomen or feet, during menstruation, together with hot douches and glycerine plugs in certain cases; (3) Anodynes, the two best in their immediate effects, alcohol and morphia. Mr. Martin weightily discountenances, and in so doing carries with him, undoubtedly, the large concurrence of medical men who would quite endorse his statement, that dysmenorrhœa is a lesser evil than secret drinking and morphiomania. He recommends, on the other hand, viburnum prunifolium, belladonna, cannabis indica, and, in neuralgic dysmenorrhœa, antipyrin combined with sal volatile.

(4) *Surgical treatment*, viz., dilatation, and, in certain cases, operations on the appendages. A certain number of cases of uterine dysmenorrhœa are cured by marriage. Cases of extra-uterine dysmenorrhœa are usually aggravated by marriage.

A. E. G.

AN UNUSUAL FORM OF HYPERTROPHY OF THE CERVIX
UTERI, by Dr. COCHERIL. *Jour. des Sc. Méd. de Lille*,
May 12, 1894.

This case was reported to the Société Anatomico-clinique de Lille. For six months the patient, aged 35, the mother of one child, 9 years old, had noticed a mass outside the vulva. It caused no symptoms except leucorrhœa and difficulty in sexual intercourse. On examination, the tumour was found to consist of the greatly enlarged anterior lip of the cervix. The measurements are not given, but from the drawings that illustrate the paper, it would seem to have been about the size of an orange. The posterior lip was only slightly hypertrophied. The anterior lip and tumour were removed, and the patient made a good recovery. The tumour originated in a little fibrous nodule in the anterior lip. The condition has been described by Virchow as "hypertrophia polypiformis." Demarquay cites several examples, and a similar case is reported by Dupuy in the *Progrès Médical* for 1875.

A. E. G.

SUGAR IN THE TREATMENT OF UTERINE
DURING LABOUR. *Rev. Illust. de Polytechniq*
May 30, 1894.

M. Bossi, of Gênes, has made a practical application of a hypothesis enunciated by two Italian physicians, Paoletti and Mosso, to the effect that sugar, administered internally, might have a stimulating action on the uterus as it has on voluntary muscles. Bossi tried it in eleven cases giving an ounce of sugar in about eight ounces of water. In ten cases the effect was excellent. The effect usually showed itself in from twenty-five to forty minutes. In most cases lasted till the birth of the child. In one case a second dose had to be given. The contractions were always quite regular, and free from any tetanic tendency.

If these facts be confirmed a most useful measure will have been found.

RELATION OF A CASE OF QUADRUPLE PREGNANCY
Dr. BOUSQUET, Marseilles. *Journal de Médecine*
May 27, 1894.

Delivery of four children at a birth is a very rare occurrence. Dr. Bousquet related an instance before the Société de Gynéc. de Paris, in April, 1894. The patient was aged 24, in the eighth month of pregnancy. A relay coachman from Nice to Marseilles started the labour. Dr. Bousquet was called. He found the abdomen very large, and on abdominal auscultation made out the presence of three foetuses beating respectively at 122, 135 and 157. Vaginal examination revealed two heads, one R. O. A. and one R. O. P. The first came down, and birth was hastened with forceps. On examining again, the other head had gone, but the third was felt three feet. A right foot came down to the vulva, he extracted. The second head had now engaged. He auscultated again and heard two distinct hearts, 152 and 157. The third child was born quickly, and immediately the heel came down. This was the fourth child.

gave a hypodermic of ergotin; in twenty minutes a large placental mass was expelled, comprising four placentaë united by their borders, but with apparently only a single compartment in the membranes. An intra-uterine douche was given. The puerperium was normal, and with the help of three wet nurses, the mother was able to nourish the four children, who, from recent information, were all doing well. A. E. G.

A CASE OF TUBERCULOUS OVARIAN CYST AND TUBERCULOUS UTERINE POLYPI, by Dr. MAX MADLEUER, of Munich. *Cent. für Gynäkologie*, June, 1894.

Tuberculous ovarian cysts are very rare. They may arise in two different ways. Firstly, an ordinary proliferating ovarian cyst may become tuberculous by extension of the disease from co-existent tuberculous peritonitis. Secondly, a tuberculous nodule formed in the substance of the ovary may break down, and in the absence of marked inflammatory reaction, the cavity thus formed may gradually increase in size until it forms an actual cyst.

The author relates a case which occurred in the clinique of Prof. Amaun in Munich. The patient died of pulmonary phthisis, and the autopsy furnished an opportunity of examining the pelvic organs. On the right side was found a large tuberculous tubo-ovarian cyst, of the size of a woman's head; the left tube contained caseous material; the left ovary was apparently normal. The uterus was enlarged and contained a sessile polypus attached to the fundus. On the posterior aspect of the uterus was a caseous abscess as large as a walnut. The axial part of the polypus was found to contain numerous tubercles, with giant cells and tubercle bacilli.

The author believes the primary tubercular lesion in this case to have been the right ovary; local extension of the disease occurred, forming a tubo-ovarian cyst, and a nodule in the uterine wall, which by direct extension invaded the polypus within the uterus. The pulmonary phthisis he regards as a secondary complication. T. W. E.

HÆMORRHAGE AFTER ABDOMINAL SECTION, by A. H. BUCKMASTER, of New York. *Annals of Gynæcology and Pediatrics*, May, 1894.

The author believes that death from hæmorrhage after abdominal section is not a very rare accident. Since losing a case from hæmorrhage himself he has had over 40 cases narrated to him by almost as many operators. The causes of hæmorrhage after abdominal section are as follows :—

(1) Slipping of the hypertrophied broad ligament from the grasp of the ligature.

(2) Imperfect arrest of hæmorrhage at the time of operation, and reliance on pressure by means of sponges and gauze.

(3) Slipping of the clamp after hysterectomy.

(4) The use of the Trendelenburg posture. In this position hæmorrhage may not be noticed, because with the hips elevated the blood pressure is much reduced, but when the pressure is increased by placing the patient in the horizontal position, the hæmorrhage may become free.

The author formulates the following conclusions :—

(1) Nothing should be left undone at the time of operation to arrest hæmorrhage; it is better to run the risk of death from shock than of death from hæmorrhage afterwards.

(2) When symptoms of concealed hæmorrhage are present, it is too late to afford the patient more than a forlorn hope.

(3) The use of the drainage tube as an indication of hæmorrhage is not to be relied upon, for the tube is soon scaled off by plastic exudation.

(4) It is better to enucleate all cases where the hypertrophied broad ligament forms a part of the pedicle.

(5) In cases of suspected hæmorrhage, the pelvis should not be elevated, for in this position the blood will gravitate out of the pelvis and collect under the diaphragm, where it is impossible to remove it. This blood will set up a peritonitis which may be considered as the cause of death.

(6) A patient may have no bleeding when she is in the

Trendelenburg posture, because the arterial pressure is diminished, but when the pelvis is lowered, bleeding of a dangerous character may occur.

T. W. E.

THE FORMS OF PERITONITIS, THEIR RELATION TO APPENDICITIS, AND THE ETIOLOGY OF EACH. A Paper by Dr. ROSWELL PARK in the *Medical Age*, quoted by the *Cincinnati Lancet-Clinic* of June 30, 1894.

Dr. Park considers that failure in diagnosing the lesion of appendicitis is best explained upon the following grounds:—

(1) To the very common and early diffusion of pain with which many of these cases begin, even those where the phenomena subsequently become strongly localised. This is not always due to ignorance on the part of the patient, for many intelligent people are unable to indicate the place where they first feel the pain of which they so bitterly complain.

(2) To the frequent insidiousness of the disease itself, and especially in many of those cases in which pus forms.

(3) To carelessness in the first examination, and to failure to appreciate the real nature of the lesion in true appendicitis. This is purely a matter of ignorance, and concerns mainly those men—their number very rapidly diminishing—who diagnosticate all these cases as inflammation of the bowels.

(4) To failure to recognise the induration or tumour in the right ileo-cæcal region, which failure may sometimes be well excused, because of the distension of the abdomen, the acute sensibility of the part, and the pain which the slightest manipulation produces; in other words, to the impossibility of proper examination.

(5) To the fact that some of these cases present, almost from the outset, common signs and symptoms of primary obstruction of the bowels, and that the diagnosis once made by the attendant is not altered to suit the other aspects of the case as they develop. This surgeon thinks that we must have charity for those who make this mistake, because to his know-

ledge it has been made by good and competent general practitioners.

Dr. Park has learned to believe that :—

(1) There is no such thing as idiopathic peritonitis. Every so-called case has a definite origin, which, however, it may not be always possible easily to determine.

(2) Many cases of non-traumatic peritonitis have their origin in the female pelvic organs, and are usually caused by the staphylococcus and streptococcus; but some of them are really cases of colon infection.

(3) Those cases which depend upon perforation after ulceration, escape of gall-stone into the peritoneal cavity, and lesions of this general nature fall into the septic or putrid forms.

(4) Peritonitis due to internal obstruction or strangulated hernia is usually due to infection by the colon bacillus.

(5) Cases of peritonitis which do not originate in the manner already referred to, almost invariably proceed from the appendix vermiformis, and of all these a larger proportion are cases of pure infection by the colon bacillus.

(6) The larger proportion of these are fatal unless surgical procedures are used.

(7) In every case of peritonitis for which obvious cause is lacking, the ileo-cæcal region should be carefully examined, if suspected should be explored, and this exploration may well be made under an anæsthetic, with all conveniences at hand for the most formidable kind of operative procedure.

L. N.

NOTES OF NINE CONSECUTIVE CASES OF EXTIRPATION OF THE ENTIRE UTERUS FOR CANCER WITH REMARKS, by RUTHERFORD MORISON, M.B., F.R.C.S. Reprint from the *Birmingham Medical Review*, August 1894.

Case 1.—Mrs. S., age 42, mother of three children; eldest 23, youngest 10.

History.—One year and seven months ago bleeding from the womb suddenly commenced, and up to three weeks from

November 9, was of daily occurrence, sometimes more and at others less in amount. She has had no pain except in the bladder, which has caused her to get up six or seven times at night to pass water. Before the present illness she had good health. Latterly she has lost weight quickly. There is no family history of disease.

Uterine Condition, November 28, 1891.—The cervix is hard, nodular, and ulcerated. Os admits tip of index finger. A small old laceration is present on the left side. The vagina and broad ligaments appear to be healthy. The uterus is freely movable.

Operation, December 1, 1891.—The whole uterus was extirpated per vaginam, the broad ligaments being secured by a series of silk ligatures, which were cut short. A section of the uterus showed that the disease extended up the cervical canal to a point beyond the internal os.

After-progress was uneventful, and the patient went home well on December 14, 1891.

Case 2.—Mrs. H., aged 57, married three times, one child to her first husband thirty-five years ago.

History.—Her illness commenced in July, 1891, with bleeding from the womb, and pain. The bleeding was profuse, and her uterus was scraped. The bleeding then ceased for about three weeks, when it returned. Between two and three months after the first operation the uterine cavity was again scraped. For a fortnight after this the discharge ceased, and then re-appeared as badly as ever, and was accompanied by or alternated with a bad-smelling watery discharge, which escaped in gushes. Seven weeks ago I scraped the uterus for a third time, keeping the scrapings for microscopical examination. This proved the case to be one of uterine cancer, and I advised, as Dr. Russell had, total extirpation. The discharge did not re-appear for more than six weeks, and when it returned, the patient, being persuaded that there was nothing else for her, decided to undergo the proposed operation. She has been a healthy woman until this illness commenced, though for the last fifteen years she has partaken very freely of spirits.

Menstruation ceased entirely at fifty-two years of age, and for four and a-half years before the bleeding began she had seen nothing. Family history good.

Uterine Condition, February 8, 1892.—Vagina and cervix small, but healthy. A foetid brown discharge escaping from os. Body of uterus enlarged. Sound passes four inches, causing bleeding and pain.

Operation, February 9, 1892.—The vagina was narrow, and the uterus could not be drawn down, consequently the operation was tedious and difficult. After half-an-hour's hard work I despaired of getting the uterus away by the vagina, and had suggested completing the operation through the abdomen. Dr. Hume, who was assisting me, then took a turn, and succeeded, by anteverting the uterus through the anterior wound, in turning the fundus into the vagina. It was now easy to clamp the broad ligaments in forceps, divide them, and remove the whole uterus. Three pairs of forceps were left on the right, and two pairs on the left broad ligament. The patient was put to bed in good condition. On section the uterus was found to be enlarged to double its normal size. The interior was hollowed out and the posterior wall nearly destroyed by ulceration. The cervix was normal.

After-progress.—Twenty hours after the operation the clamp forceps were taken off the broad ligaments. There was a trifling oozing, which ceased spontaneously in a few minutes. Recovery was uneventful, though the vaginal discharge was horribly offensive for some days. Ten days after the operation she left her bed, and in the third week returned home well.

Case 3.—Mrs. R., aged 53, mother of eight children.

History.—A profuse yellow discharge appeared nine months ago, which, four months afterwards, became blood-tinged at times. Three months ago a discharge of pure blood commenced, and has continued more or less freely up to the present time. The patient has never been well since the birth of her first child, thirty-two years ago, for she has always been troubled with a "bearing-down." She has lost flesh lately.

Menstruation ceased permanently six years ago. Family history good.

Uterine Condition, November 24, 1892.—The tip of the cervix is flattened and enlarged, and occupied by a hard ragged ulcer, which bleeds readily on examination. The vagina, broad ligaments, and bladder appear to be healthy. The uterus is of normal size, and is freely movable.

Operation, November 24, 1892.—The whole uterus was extirpated *per vaginam*. The lower part of the right broad ligament was secured by a silk ligature, and the remainder clamped in large forceps; the left broad ligament was secured by three pairs of forceps before division.

After-progress.—Twenty-seven hours after the operation the clamp forceps were removed. There was no bleeding. The vaginal discharge was fœtid during the first two weeks though the patient made a good recovery, and went home well in the third week.

Case 4.—Mrs. A. P., aged 34, mother of four children.

History.—For three weeks she had noticed a yellow discharge mixed with blood, more profuse sometimes than others, but getting steadily worse. Bleeding always followed coitus or straining during defæcation. She has had no pain. Her mother died of cancer of the womb.

Uterine Condition, February 18, 1893.—A large cauliflower growth, with a circumference the size of a five-shilling piece, is felt springing from the cervix. The growth is very soft and friable, bleeding profusely when touched. Vagina, broad ligaments, and body of uterus normal.

Operation, February 23, 1893.—Entire uterus removed.

P.V.—Broad ligaments clamped with two pairs of forceps on left side and three pairs on right. About three ounces of blood was lost.

After-progress.—Twenty-eight hours after the operation the forceps were taken off. There was no bleeding. Recovery was uneventful, and the patient went home well on March 11.

Case 5.—A. O., aged 42, mother of four children.

History.—For the last year has been troubled with "her

womb coming down occasionally." Six weeks ago bleeding began, and has continued steadily since. Four weeks ago the discharge was noticed to smell badly. She has had no pain.

Uterine Condition, April 10, 1893.—Cervix large. Projecting from its end a rounded ulcerated soft swelling, the size of a Tangerine orange, is felt and seen. From the inside of the cervix a similar finger-shaped process projects into the vagina. The growths bleed readily. Disease is limited to the cervix. The discharge has the fœtor typical of malignant disease.

Operation, April 12, 1893.—The entire uterus was extirpated *per vaginam*. The broad ligaments were clamped with three pairs of forceps on each side.

After-progress.—*April 13*, at 5 p.m. (twenty-five hours after operation) the forceps were taken off. Profuse hæmorrhage commenced at once. As I had just completed an abdominal section in the adjoining room, the chloroformist, an assistant, nurse, instruments, and all necessities were fortunately at hand. Chloroform was immediately administered, and the patient placed in the lithotomy posture. In a few minutes she had lost over a pint of blood. Introducing my hand into the vagina I felt a warm stream of blood pumping from a large vessel on the left side. This was soon arrested by re-applying the clamp forceps to the portion of tissues in which the vessel was felt. The blood was then removed from the pelvic cavity by sponging and douching. From the position of the vessel I think it was a large branch of the left ovarian artery, which had failed to become occluded by twenty-five hours of forcipression.

April 16.—Clamp forceps finally removed. *May 3.*—Patient went home well. Her after-progress was not so straightforward as in the other cases, for on one occasion (the evening of April 14) her temperature was 102°6', and for some weeks she was very anæmic.

Case 9.—Mrs. F. M., aged 32, mother of one child 14 years old.

History.—A year ago she first noticed a yellow discharge,

with hæmorrhage. The bleeding has recurred at irregular intervals since, and at her menstrual periods has been very profuse.

Uterine Condition, June 5, 1893.—The cervix is broad, short, and indurated. The tip of it is excavated by a nodular, hard-based ulcer with sharp, hard edges. The vagina is small and inelastic, but free from disease. The broad ligaments appear to be healthy. Posteriorly, and to the left of the cervix, a rounded smooth body can be felt which, from its connection with and relation to the cervix, is believed to be the retroflected fundus of the uterus. Connected with this is another rounded, elastic, tender swelling which, from its position and relations, is thought to be an enlarged and cystic ovary. Hæmorrhage followed the examination.

Operation, June 7, 1893.—The abdomen was opened in the middle line, and the diagnosis of retroflected uterus and enlarged cystic ovary confirmed. The fundus was then drawn up and held forwards with the ovaries and tubes. A chain ligature was next applied to each broad ligament on its pelvic side, and the broad ligament was divided between the ligatures and clamp forceps on the uterine side right down to the floor of the pelvis. The peritoneum was now divided over the front and back of the cervix close to the uterus, and an elastic ligature was passed round the bared cervix and tied. The body of the uterus, the ovaries and tubes, and the greater part of the broad ligaments were then removed by dividing the uterus above the elastic ligature. The stump and opened canal were now covered up with iodoform gauze held in position by sutures. The pelvic cavity and abdominal opening were then packed with sponges to keep the intestines out of the way, and the opening covered with an antiseptic towel. The patient was now placed in the lithotomy posture, and the cervix with the elastic ligatures and iodoform gauze removed, *per vaginam*, by making a circular incision through the mucous membrane of the vagina, clamping and dividing the small remaining portion of the broad ligament containing the uterine arteries. A strip of iodoform gauze was left in the

vagina with the two pairs of forceps on the broad ligaments. The operation was completed by removing the sponges from the abdominal and pelvic cavities and suturing the abdominal wound. The operation occupied one hour.

After-progress.—June 9 (forty-eight hours after operation). The forceps were removed, but the iodoform gauze left.

June 16 (a week after operation).—A sharp attack of vaginal hæmorrhage, which had to be arrested by plugging. As there had been no trouble of any sort since the operation, and no discharge for the last few days, it was difficult to account for this. We learned, however, and this may have a bearing upon it, that at this time menstruation should normally have commenced. Except for this, recovery was uneventful.

June 22.—Went home well.

Case 7.—Mrs. B., aged 50, mother of ten children and two miscarriages, eldest 32, youngest 7.

History.—For past two and a-half months has felt a sensation as if her womb was coming down, and has had a profuse foetid leucorrhœal discharge.

Uterine Condition.—Os a transverse slit, very hard. On anterior lip a hard nodular erosion is seen and felt, no ectropion. Fornices and broad ligaments normal.

Operation, March 15, 1894.—Whole uterus extirpated. Fundus had to be anteverted, because broad ligaments were inelastic and would not yield. The broad ligaments were each clamped with three pairs of forceps.

After-progress.—Went home well March 31, 1894.

Case 8.—Mrs. H., aged 37 years, twice married, one child 12 years of age, to first husband; two children, 6 and 4, to second husband.

History.—Bleeding commenced seven months ago after a ride on a switchback, and has continued less or more ever since. It also is increased by straining at stool or by sexual intercourse. The blood has at times been mixed with matter which had a foul smell. There had been of late some irritation of the bladder, which has made her get up at nights. No pain has ever been felt.

Uterine Condition, April 2, 1894.—Cervix soft and enlarged; bleeds readily when touched. A mushroom-like ulcerating growth, sloughy and bleeding, is seen occupying the position of the cervix. In front the ulceration extends on to the vaginal mucous membrane underlying the bladder.

Operation, April 28, 1894.—The bladder being first defined, the involved vaginal tissue was dissected off it, and the entire uterus then extirpated. After division of the lower part of the broad ligament, the fundus was retroverted and the remainder of the broad ligaments clamped and divided from above; the ligaments were rigid, and would not allow the uterus to descend directly. Three clamp forceps were used for each broad ligament.

Case 9.—Mrs. C. aged 32 years, mother of six children.

History.—Two months ago she first noticed an offensive discharge. Her last baby was then 15 months old and unweaned. She weaned it at once. The discharge continued to increase and became blood-stained. A week before operation she had a severe hæmorrhage, which commenced during the night, after coitus, and in the morning she sent for Dr. Whitehouse. It ceased then in great part, but has continued slightly since.

Uterine Condition, May 19, 1894.—Cervix feels enlarged by a growth, soft and granular. Os patulous. Bleeds on slightest touch. Disease apparently limited to cervix.

Operation, May 22, 1894 (at patient's own home).—Both ovaries and tubes and entire uterus removed P.V.

On exposing parts fully, a nodule of growth about the size of a walnut was found infiltrating the base of the right broad ligament. The uterus was first separated on the left side by clamping and dividing the left broad ligament, then the fundus and both ovaries and tubes were anteverted and tilted down, and the right broad ligament clamped in small pieces and carefully divided from above, thus leaving the nodule in the lower part to be dealt with last. The broad ligament beyond the growth was then secured by forceps and divided, allowing the uterus and both ovaries and tubes to be

removed in one mass. Ten forceps in all were left hanging in the vagina, with a strand of iodoform gauze passing through the centre of them into the peritoneal cavity.

After-progress.—May 24, forceps all taken away. No hæmorrhage. P. 65, T. 99·6°; looks well.

May 25.—In the afternoon of to-day the temperature began to rise; at 12 o'clock it was 102°; at 4, 103·8°; at 7.30, 104·2°. The iodoform gauze was now removed and a douche of iodine water used. 9.30 p.m., T. 103·8°; 11.30 p.m., douche; 12 p.m., T. 102°, P. 95; 2 a.m., T. 101°, P. 85, douche; 4 a.m., T. 99·8°, P. 92; 6.30 a.m., T. 98°, P. 90, douche. From this date the case caused no further anxiety though she passed through an illness resulting from septic absorption before completing recovery.

In every case the clinical diagnosis of cancer was verified by microscopic examination.

Remarks.—The one striking fact in the history of every case, except Case 8, is that *hæmorrhage was the first symptom to attract attention*. I have had abundant evidence to satisfy me that *there is no pain in cases of cancer of the cervix till the case is beyond hope of cure by a radical operation*. The cervix is insensitive, and pain only appears when peritoneum or bladder or other sensitive parts in the neighbourhood have become involved, when it is too late to do a radical operation with fair chances of success. Metrorrhagia is especially alarming in women past the menopause, for in the great majority of instances it means uterine cancer. The diagnosis should be at once made complete by examination, for it can only be confirmed by physical signs, aided, in doubtful cases, by the use of the microscope.

Statistics, if they have done nothing more for this subject, have settled that the prognosis, after early and free removal by operation of the cancerous cervix, is good; for a large percentage of patients submitted to a radical operation remain permanently well. Hence the importance of an early diagnosis.

The choice between a partial and complete removal of the

uterus, when the growth appears to be limited to the cervix, cannot yet be settled on the ground of experience. Each operation has powerful advocates with convincing statistics. As soon as it can be shown that total extirpation has a mortality not larger or very little above that of supra-vaginal amputation of the cervix, the partial operation will be abandoned. My preference for the radical operation is indicated by the notes, and the conditions I regard as constituting suitable cases for it are made sufficiently apparent. All the cases in which I have extirpated the entire uterus for cancer are reported in this paper.

In the five first cases, and the seventh, eighth, and ninth, the uterus was extirpated through the vagina. In one case (the sixth) the fundus of the uterus, the tubes and ovaries, and a large part of the broad ligament, were removed by the abdomen, and the cervix by the vagina. This latter is the operation I would prefer to perform when, for any reason, the uterus cannot be drawn down so that the cervix is visible at the vulva. The brilliant recorded success of vaginal hysterectomy makes criticism difficult, and possibly dangerous; but an operation performed largely in the dark, and requiring sometimes an amount of force which, under any other circumstances, would be considered unsurgical, does not commend itself to me. The excellent recovery made by Case 6 supports my belief that such an operation as was performed on that patient need be no more dangerous than vaginal hysterectomy, and it has the important advantages of—

(1) Allowing of a more thorough examination of the condition of the broad ligaments, and of the lumbar and pelvic glands, before resorting to total extirpation of the uterus, than is possible from the vagina.

(2) Performing a difficult operation with parts fully exposed and in a good light—perhaps the most important aid to a successful result in surgery.

(3) Increasing the chances against peritoneal sepsis—the greatest risk of the operation.

The details of the operation are then described.

"After-treatment.—The bladder is emptied by catheter every eight hours until the forceps are removed. The forceps must not be taken away earlier than forty-eight hours after the operation, for my experience in Case 5 shows that it is unsafe to do so. The cases in which this was done sooner without mishap do not encourage me to run the alarming risk of hæmorrhage. The iodoform gauze is not touched for seventy-two hours, when it may be withdrawn and dispensed with. Bathing of the external parts with an antiseptic lotion, and dressing with an antiseptic pad, are now likely to meet all requirements. From the sixth to the eighth day the bowels are to be moved with an enema. In most clamp cases a foetid vaginal discharge is noticeable in a few days, which, unless the temperature rises, may be disregarded. If, however, there be any rise of temperature, careful douching with iodine lotion is my favourite prescription. It is rare, so far as I have seen, to have this foetid discharge when the broad ligaments have been secured by ligatures.

"Report of the Condition of the first six cases in December, 1893.—Of the six cases, two (Case 1 and Case 4) are dead of recurrent cancer. All the rest are well. In Case 1 the bladder was evidently involved at the time of the operation, but as there were no physical signs found to corroborate what the symptoms suggested, the operation was performed. In Case 4, the youth of the patient and the microscopical character of the growth both made the prognosis exceptionally unfavourable, though it was hoped, from the early stage at which the growth was attacked, and its apparently complete removal, that the result would be good.

"Case 1 lived about fourteen months after the operation. She was free from symptoms for nearly a year.

"The first symptoms of recurrence of cancer in Case 4 appeared in the cicatrix of the vaginal roof about two months after operation. It seemed to extend up the colon, implicating the ureter and kidney—right side. She succumbed Nov. 4, 1893, owing to uræmia and exhaustion.

"The last three cases have been so recently operated upon as to make a report of their present condition valueless."

ANALYSIS OF CASES.

Case.	Vessels secured by	Convalescence : Went home	Result.
1	Ligature	Fourteenth day	Died 14 months after operation.
2	Forceps, 3 pairs, removed in 20 hours	Third week	Recovered. Nov., 1893, 20 months after operation, no return of disease.
3	Forceps and ligature, forceps removed in 27 hours	Third week	Recovered. Dec., 1893, 13 months after operation, no recurrence.
4	Forceps, 5 pairs	Third week	Died 10 months after operation. Recurrence in 2 mos.
5	Forceps, 6 pairs	Third week	Recovered. Dec., 1893, 8 mos. after operation, no recurrence.
6	Abdomino-vaginal operation, ligature and forceps	End of second week	Recovered. Dec., 1893, 6 months after operation, no recurrence.
7	Forceps, 3 pairs	Sixteenth day	} Too recent to make report useful.
8	Forceps, 6 clamp	Thirteenth day	
9	Forceps	Septic convalescence, operation at home	

We thus find that ligature alone was used in one case, forceps alone in six cases, and ligature and forceps in two cases.

Some of the patients returned home in about a fortnight, the others mostly during the third week after operation. All recovered from the immediate operation.

Of the six first cases operated on more than six months from the date of report two died (33·3 per cent.), one fourteen months after operation, the other ten months after operation.

One had no recurrence twenty months subsequent to operation, another no recurrence thirteen months after, and in the two others eight months and six months had elapsed without recurrence.

Cases 7, 8, and 9 were operated upon respectively in March, April and May of this year, so that the writer, very

properly, does not as yet seek to determine the ultimate results.

The sixth case reminds us of the method of hysterectomy advocated by Doyen, of Rheims. By his method an opening is made into the vagina through the pouch of Douglas, and the broad ligaments are boldly separated from the tumour first on one side and then on the other, an assistant seizing the broad ligament as it is separated and controlling the bleeding; a ligature is placed round the broad ligament just below the ovary. The other bleeding points are picked up separately after the tumour has been removed. The end of the operation is performed with the patient in the lithotomy position. The cut broad ligaments are pulled into the vagina and treated as is necessary with pressure forceps. The peritoneum around the opening into the vagina is sewn together from above, and a drainage tube is used from the peritoneum through the vagina. When this has been completed the abdominal wound is closed.

M. Doyen has performed his operation eleven times with one death. This death, he explains, was not due to the operation, but as it occurred only fourteen days after operation and was due to broncho-pneumonia, it cannot well be excluded, more especially as there was no account of an autopsy.

However, the results are satisfactory taken as they stand, and do not need excuses.

L. N.

A CASE OF UTERUS TRI-SEPTUS: CYSTS OF THE OVARIES AND BROAD LIGAMENT; ABDOMINO-VAGINAL SECTION: RECOVERY. Dr. DEPAGE. *Archives de Tocologie et de Gynécologie*, July, 1894.

The patient was a girl, aged 22 years, of good constitution. First menstruation at 18½ years of age. Since the establishment of the periods she had suffered from pains in the back and abdomen, which became very severe on the fifth day, and continued for about ten days more. The patient had not observed any abdominal enlargement.

Objective examination of the abdomen showed some pro-

minence on the left side. On palpation, a tumour about the size of a child's head was felt in the left iliac fossa. This tumour was slightly movable, and appeared cystic; it was irregular, but not lobulated. A second tumour was felt on the right of and below the first, lying immediately behind the pubis. It was harder than the other, and no fluctuation could be elicited. By vaginal examination the cervix could not be reached.

The diagnosis was doubtful. Finally, it was held that the growths were sub-peritoneal multiple fibroid.

Operation on April 14.—On opening the abdomen a large cystic tumour developed in the left broad ligament, and with many omental and intestinal adhesions was discovered. The tumour was removed with much difficulty. The right ovary was about the size of a large egg; it was cystic and was also removed. It was found impossible to deal with the other tumours from the abdomen. The abdomen was then closed, and the other tumours were removed *per vaginam*. The operator was struck with the fact that the intra-pelvic tumour which before the operation had evidently had thin walls and was as large as a child's head, was now strongly contracted, having emptied itself of a quantity of altered, dark-coloured blood, and had decreased to about the size of an apple. The tumour on the right side, which had formerly appeared solid, proved to be hollow, and contained altered blood it had contracted before its ablation, although not so much as the other. Twelve pairs of forceps controlled the bleeding.

The convalescence was febrile, the temperature varying from 36·3° C. to 37·5° C., the pulse small and compressible, 132. The hæmostatic forceps were removed in forty-eight hours. The patient left well in a fortnight.

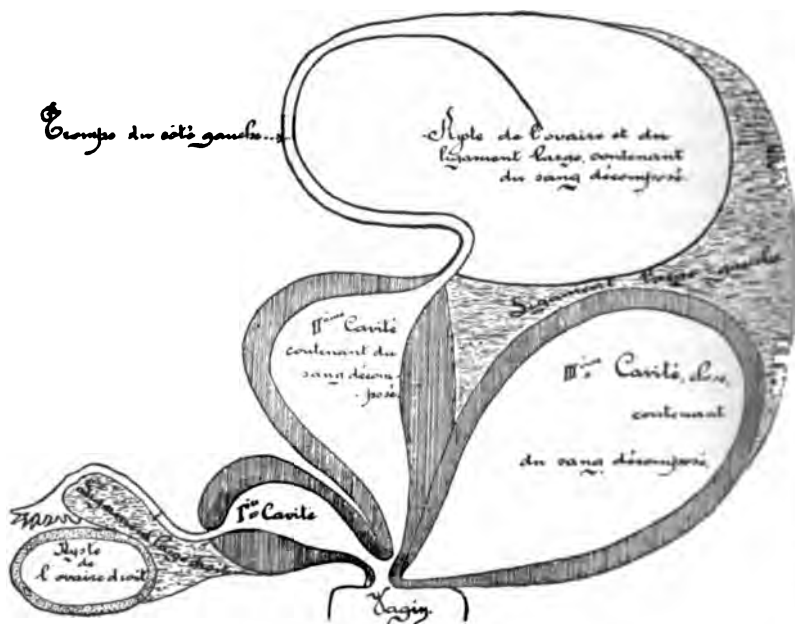
The anatomico-pathological examination of the tumours removed showed that there were five portions:—

(1) The cystic tumour from the left side, which was unilocular, and consisted partly of connective tissue, partly of ovarian tissue; the left Fallopian tube was spread over its external surface.

(2) The right ovary, which was cystic, and contained a central blood cyst.

(3) The uterus, which was small, measuring 6 cm. externally, and having a normal cavity except that there was no opening for the left Fallopian tube.

(4) The tumour found behind the pubes had a cavity resembling the interior of a uterus, and contained an opening corresponding to the left Fallopian tube, which, as above mentioned, was spread over the cyst.



(5) The last portion was adherent to and continuous with the cervix. It was the size of a child's fist; the lining contained utricular glands with cylindrical epithelium. It was actually a closed cavity filled with altered blood. The explanation of this freak of teratology is difficult. Uterus biseptus is easily explained—it is recognised to be due to the absence of the coalescence of the Müllerian ducts; but uterus tri-

septus cannot be explained in any way from embryology. It is suggested that during the development of the genital organs a diverticulum had been formed in one of Müller's ducts, which afterwards became wholly occluded. The third cavity had thus been formed by a process analogous to that shown in dermoid cysts. The author draws attention to the fact that the pains experienced on the fifth day of menstruation and which continued for ten days, reappearing at each menstrual epoch, and the closed condition of one of the uterine septa with the altered blood therein contained can be attributed to a retention of menstrual blood.

The diagrammatic illustration shows the relative position of the parts. It is probable that Depage has offered the most reasonable explanation of this curious condition. Lefort in 1853 devoted much time and ability to the study of uterine malformations. His classification included "uterus deficiens, uterus unicornis, uterus bipartitus, uterus diductus, uterus bicornis (two varieties), uterus globularis (two varieties), uterus semi-partitus, uterus unilocularis, uterus cordiformis, uterus parvicollis vel acollis, uterus fœtalis, uterus imperforatus, and uterus flexus." (Lefort, *Thèse de Concours*, 1863.) The literature of uterine malformations is ample, but the case of Depage seems to be unique as an example of tripartite-uterus with double ovarian cystic disease. L. N.

PREGNANCY AFTER VENTRO-FIXATION.

Löhlein in the *Deut. Med. Woch.* for March 15, 1894, reports two cases. The first patient was 30 years of age. The operation was performed in July, 1892, for prolapse; parturition in December, 1893. The second patient, aged 35, had myomectomy effected in November, 1892. The uterus was retrodisplaced; to remedy this, the bed of the tumour was fixed to the abdominal wall. She became pregnant, but suffered from severe nausea and vomiting. The child was well developed, but died shortly after its birth. Löhlein con-

siders that nausea and vomiting during the early months of gestation were severer in both patients than in previous pregnancies.

L. N.

VAGINO-FIXATION.

Fritsch (Deutsche Med. Wochensch., January 4, 1894) prefers vagino-fixation to ventro-fixation uteri in certain cases.

The method he employs is as follows: After freeing the uterus it is drawn down with forceps. An incision is made from the portio vaginalis to near the superior urethral orifice. The vagina is freed on both sides; the bladder is dissected from the uterus and sewed back. As soon as the fold of peritoneum is in sight the uterus is firmly fixed with volsella forceps; by using several other volsella forceps the uterus is pulled forward into a position of ante-flexion, until the fundus is brought into sight. A threaded needle is passed through the fundus and through the vaginal wall, so high up upon its surface that a second suture can subsequently be passed anterior to the first. The uterus is now held firm. With a small curved needle the "reverse" side of the vaginal membrane is stitched to the fundus, six or seven buried sutures being employed. The two long sutures passing through the fundus are then tied, and the vaginal incision closed, except just under the anteflexion, into which the reverse side of the vagina was not sewn; into this opening a strand of iodoform gauze is passed as a drain.

This procedure seems to be somewhat too complicated to ever become popular; it may be compared with ventro-fixation as vaginal oöphorectomy may be compared with abdominal oöphorectomy. The abdominal operation affords greater facilities for the division of adhesions, and with ordinary precaution is quite as safe.

L. N.

TYPHOID FEVER DURING PREGNANCY.—(Abstract.) Dr. EMILE DUHAUT. *Lyons Thesis*, 1893, review in *Journal de Médecine et de Chirurgie*, January 25, 1894, and *Annals of Gynæcology and Pædiatry*.

The author has collected many documents concerning the frequency of typhoid during pregnancy, its gravity, and the results obtained by the cold bath treatment. A most remarkable fact, brought out by the number of cases in this *mémoire*, is that typhoid fever is infrequent in the pregnant female. Of 1,046 cases of typhoid treated by different Lyons physicians, only seven were pregnant women. This extreme rarity cannot for the time being be explained, and must be accepted as a simple fact. On the other hand, it appears that the disease attacks women during the first months of pregnancy rather than the last, which, according to Gusserow, might be explained by the fact that there is less danger of exposure to typhoid during the latter part of pregnancy. When, however, typhoid does occur during pregnancy, it may be said in a general way that it is in no way influenced by this condition; but in more than half of the cases pregnancy is interrupted, abortion being more frequent than premature delivery. Interruption of pregnancy takes place ordinarily during the second week of the disease. Abortion or premature labour, as the case may be, may darken the prognosis, from the fact that typhoid facilitates the development of puerperal infection. As to the treatment of typhoid fever during pregnancy by cold baths, Dr. Duhaut has brought together fourteen cases where this method was employed, with the result of saving all the mothers and only three abortions occurring. It appears from this that this treatment is good, and the results can be theoretically explained. The two great causes of abortion in typhoid are maternal hyperthermia and infection of the fœtus. Now, the cold bath acts by keeping the maternal organism in a state of relative apyrexia during all the febrile period; it can transform a high fever where abortion would be nearly impossible to prevent, into a less severe fever with moderate temperature when abortion is more rarely observed. Diuresis,

one of the most remarkable effects of the cold bath, provokes rapid elimination of the bacilli and their toxins, lessening the chance of foetal infection. The conclusion of these facts is that, contrary to what might be supposed, the cold bath is without danger in these cases. It would appear that this sudden cooling, exercising a vaso-constriction of the peripheric arteries, consequently pushing the blood into the deeper organs, would cause congestion of the uterus, with its attending placental hæmorrhages; but clinical observation shows that internal congestions are not produced by the cold bath, and the number of complications may perhaps be less.

L. N.

TYPHOID FEVER COMMUNICATED TO THE FŒTUS.

Janisewski (Presse Médicale, March 24, 1894, and Annals of Gynæcology and Pædiatry) cites the case of a woman, eight months pregnant, who was admitted to the hospital with typhoid fever, the diagnosis being confirmed by a bacteriological examination of the stools. Twelve days after admission she gave birth to a child, which lived until five days old. *Post-mortem* examination revealed no lesions except enlargement of the spleen. Cultures, however, from the spleen, intestine, mesenteric gland, kidneys, and lungs produced typical typhoid bacilli.

L. N.

A CASE OF PRIMARY TUBERCULOSIS OF THE FEMALE BLADDER DIAGNOSED AND TREATED BY DIRECT INSPECTION WITH LARGE ENDOSCOPES. Read before the Boston Society for Medical Improvement, April 9, 1894. By W. L. BURRAGE, M.D.

Some introductory observations especially referring to former methods were made.

"It was not until January of this year that Howard Kelly published in the *American Journal of Obstetrics* his article on 'The Direct Examination of the Female Bladder with Elevated Pelvis. The Catheterisation of the Ureters under Direct

Inspection, with and without Elevation of the Pelvis.' This article is the basis of my work.

"The main steps of the procedure consist in emptying the bladder with a catheter ; in elevating the patient's hips from eight to twelve inches, so that the residual urine will run up to the fundus, and the weight of the abdominal viscera being removed, the bladder is distended with air ; in the gradual dilatation of the urethra and the employment of large, straight, open endoscopes, which, by the way, are fitted with handles for ease of manipulation ; and in the use of a strong light from an Argand burner or electric lamp held near the pubes, and reflected into the bladder by a head mirror. The graduated dilators are passed until sufficient calibre has been obtained. Kelly says many take No. 16. I have found Nos. 12 and 14 to pass easily in most cases. Suppose a No. 12 dilator passes, then introduce the speculum of the same size and remove the obturator. Thus by means of a simple speculum and proper posture all parts of the air-distended bladder are rendered visible. To inspect the upper and anterior zones the patient is placed in the knee-chest position, If there is a pool of urine in the bladder it is removed by a simple suction apparatus. Applications may be made to all parts of the bladder and urethra. Small quantities of urine are removed by pledgets of cotton held in delicate mouse-toothed forceps, and applications are made with a cotton-wound applicator. The ureteral openings are seen as little slits in the mucous membrane, and if watched urine may be seen issuing from them. A probe with a long handle bent at an obtuse angle is of use in verifying the position of the orifices. The ureters are catheterised with Kelly's catheter, the patient in position with hips raised, or flat on the table.

"The necessary instruments are: four specula with obturators Nos. 8, 10, 12 and 14 ; and four dilators, Nos. 7 and 8, 9 and 10, 11 and 12, and 13 and 14 ; mouse-toothed forceps ; ureteral searcher, or long, bent probe ; ordinary applicator, and one ureteral catheter. The dilators and specula are calibrated in millimetres ; for example, No. 10 is ten milli-

metres in diameter, No. 12 twelve millimetres, and so on; a good light held near the pubes is essential to success in this field of work.

"Two ureteral catheters are more convenient than one, because the operator does not always care to spend the time to clean one catheter before catheterising the second ureter.

"*Case.*—Mrs. J. F., 26 years old, married seven years, and sterile, was referred to me on October 17, 1893, by Dr. N. K. Noyes, of Duxbury.

"*History.*—Grandmother died of heart trouble; mother and father and two sisters living and well; uncles and aunts of father died of consumption. There was consumption on the mother's side a generation back. The patient was not very strong as a child, being subject to coughs and colds. She had absolutely no trouble with her urine until August, 1893. A short time before the beginning of Mrs. F.'s urinary difficulty she spent the night at a house where her sister's husband was dying of general tuberculosis, and she was in and out at the house a good deal at that time.

"In September she was suffering with an attack of what he diagnosed as subacute peritonitis. The abdomen was tender, very slightly swollen, and she had a temperature of from 99° to 101° for five or six days. She was in bed for a month, the pain and soreness being very persistent.

"December, 1892, she complained 'of a bunch low down in front passage' and pain in the back. Dr. Noyes diagnosed retroversion, and treated her for it for three months by packing and then fitted a pessary. The pessary failed to keep the uterus in good position, however. She wore it until August, and on August 30, 1893, the patient had sharp illnesses of peritonitic character, with bladder trouble.

"Previous to the occurrence of the urinary difficulty she had made arrangements to enter St. Elizabeth's Hospital for operative treatment for retroversion and supposed peritonitis. She entered the hospital on October 17, 1893. I saw her on the following day and found a well developed and nourished woman of large frame, and of dark complexion. The uterus

was retroverted in the third degree, replacable, two and three-quarters inches deep; ovaries and tubes not felt because the vagina was very long and roomy, and the abdominal walls thick and tense. She was put on salol, gr. v., t. i. d., and prepared for exploratory abdominal section and ventral fixation. Urine slightly cloudy; no albumin. Heart and lungs negative.

"*Operation, October 25, 1893.*—Ether. Curetting the uterus brought away very little tissue. On opening the abdomen with a three-inch incision the uterus was found on the floor of the pelvis in the third degree of retroversion. Ovaries and tubes normal to feel and sight. No adhesions anywhere. The bladder wall felt thickened universally. Both ureters were palpated from the broad ligaments to the pelves of the kidneys, and nothing abnormal felt. Uterus anchored to abdominal wall by two stitches of fine twisted silk (No. 1) passed through each round ligament at a point one inch from the uterine cornu, and then through the parietal peritoneum and overlying fascia one and a-half inches from the median line and at right angles to the incision.

"Endoscopic examination, November 24, showed injection of upper urethra and bladder above trigonum. The bladder neck and upper urethra were swabbed out with nitrate of silver, 1 to 60, every third day for two weeks, with relief for twenty-four to thirty-six hours after each treatment. Various diluents for the urine were tried, and a large variety of drugs to relieve the pain, but with only temporary benefit.

"She was discharged December 22, and instructed to take citrate of potash and buchu. Repeated examinations of the chest failed to reveal evidence of anything but bronchitis.

"Mrs. F. entered the hospital for the second time on January 31, 1894. She complained of frequent and painful micturition about as before. The urine was cloudy; of specific gravity of 1.010; slightly alkaline; albumin absent, twenty-four-hour amount only 12 to 14 ounces.

"*February 5.*—Endoscopy by Howard Kelly's method. Not having Kelly's new specula at that time the examination was made with a Skene endoscope tube 10 millimetres in dia-

meter, the patient's hips being raised. I made out a reddened area that bled easily, situated in the right posterior inferior zone of the bladder. It was studded with little grayish, glistening, translucent bodies the size of the head of a pin, and raised above the surrounding surface. They looked like the miliary tubercles seen in peritoneal tuberculosis. The upper urethra was injected also. Ether was then given, and the urethra was dilated to admit my forefinger, which is 13 millimetres in diameter at the largest joint; and the patch was scraped with my finger-nail, and then touched with a 10 per cent. solution of nitrate of silver. Two days after the operation the urine contained numerous tubercle bacilli. The bladder was irrigated twice daily with a warm solution of boracic acid, and later with a very weak solution of tinct. myrrh.

"*February 21.*—I made an examination of the bladder with Kelly's instruments, having failed a few days before because of the abundant flow of urine following the administration of citrate of potash and buchu. No anæsthetic was necessary in this or subsequent examinations. No. 14 endoscope was easily passed. With the hips elevated and with the patient in the knee-chest position, the entire interior of the bladder was inspected. The ureteral orifices were found as slits in the slightly elevated papillæ. No evidences of inflammation about either orifice. In the posterior inferior zone of the bladder, and situated one centimetre above the right ureteral orifice, was a reddened area, circular in shape, and one and a-half centimetres in diameter, easily bleeding with slight touch, and studded here and there with the glistening, grayish bodies before described. I picked off one of these and gave it to the pathologist. He said it was too small for examination. I catheterised each ureter, and obtained what appeared to be normal urine from each. Examination failed to reveal the presence of tubercle bacilli in either specimen.

"Examination of the urine, March 2, showed it to be cloudy, alkaline, 1·017, with a faint trace of albumin. In the sediment was a large amount of bladder and squamous

epithelia, a few small round cells, much fresh blood, a considerable number of leucocytes, and a great number of bacteria and spores.

"*March 9.*—She had an attack of pain and tenderness in the abdomen, associated with a cough. There was no temperature. Examination of the chest showed a few moist râles and high-pitched respiration in both backs, but nothing further.

"*March 14.*—I made another examination of the bladder with the No. 14 speculum, and confirmed my previous diagnosis. I curetted the reddened area with a Simon's spoon curette, and touched it with 10 per cent. solution of nitrate of silver. There was moderate bleeding at the time.

"Mrs. F. left the hospital on March 20."

The subsequent history of this case will be of value. Usually death occurs in from one to three years, although some cases may live five years or more. Constitutional treatment is sometimes of great importance in tubercular bladder disease.

L. N.

MEDICAL NEWS.

THE Royal Maternity Charity of London, which has been in existence one hundred and twenty-eight years, shows no sign of impaired usefulness.

During 1893 there were 3,933 deliveries, resulting in the birth of 4,018 children. Of the 4,018 children, 2,133 were boys and 1,885 girls. There were two cases of triplets and 81 of twins. The maternal deaths numbered 7. The details of these were—accidental hæmorrhage, 1; *post-partum* hæmorrhage, 2; peritonitis, 1; puerperal septicæmia, 1; exhaustion, 2. Considering that, with very few exceptions, the patients are all of the poorest class, and are all attended at their own homes by midwives, who only send for the members of the medical staff when necessary, these results seem worthy of notice.

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THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JULY 12, 1894.

HEYWOOD SMITH, M.D., VICE-PRESIDENT, IN THE CHAIR.

PRESENT: 20 Fellows and Visitors.

SPECIMENS.

CARCINOMA UTERI REMOVED BY VAGINAL HYSTERECTOMY.
BY CLEMENT GODSON, M.D.

Dr. GODSON showed a uterus removed by vaginal hysterectomy from a patient aged 57. She had had six children, the last twenty-nine years ago. Dr. Godson had seen her at the end of May, in consultation with Dr. Penny, of Stroud Green. About a year ago she had had an attack of acute cystitis. When this subsided she commenced to lose blood *per vaginam*. The menopause had occurred about ten years previously. Dr. Godson was called in consultation on account of very profuse hæmorrhage. He found evidence of malignant disease extending up the canal of the cervix. The vagina being healthy, and the uterus freely movable, he recommended extirpation of the uterus *per vaginam*, and this was performed at the

patient's house by Mr. Jessett on June 7, with Dr. Godson's assistance.

On separating the uterus from the bladder at about the level of the internal os, there was an escape of most foetid pus, evidently from an abscess in this situation. It was remarkable that this had given rise to no febrile symptoms. There had been no pain or rise of temperature since the attack of cystitis a year previously. The uterus exhibited showed a remarkable constriction at the seat of the abscess, like an hour-glass. The patient had recovered without a bad symptom. The microscopical examination had shown the correctness of the diagnosis of carcinoma.

TWO CASES OF CARCINOMA UTERI REMOVED BY VAGINAL HYSTERECTOMY. By F. BOWREMAN JESSETT, F.R.C.S.

Mr. JESSETT said that of his two specimens one presented the same condition as Dr. Godson's; the other served as a contrast. The first was a very peculiar as well as unusual condition, looking as though a piece of string had been tied round the uterus in such a way as to make it appear as if the os and cervix were quite separated from the body. The body itself was very soft. The source of the pus during the operation was a doubtful point. At the operation he quite agreed with Dr. Godson that it came from the cellular tissue round the os; but it was possible also that it came from the cavity of the uterus, being retained there by occlusion of the internal os. The patient, however, never complained before of any pain, nor had she any rise of temperature or rigors. Microscopically the growth in both uteri presented all the features of epithelioma. The second specimen was removed from a patient, aged 43, by the usual method. She made a good recovery.

Dr. ROUTH said that such an abscess as was found in Dr. Godson's case was not so rare as was supposed. Sir Spencer Wells had a specimen in which the cellular tissue between the uterus and the bladder contained an abscess. The cellular

tissue in that position was very loose, and readily admitted of the formation of matter. The reason there was not more pain was that the nerve-structure was not so plentiful as it was behind the uterus. It was not necessary in this case to assume that the pus must have come from the uterus.

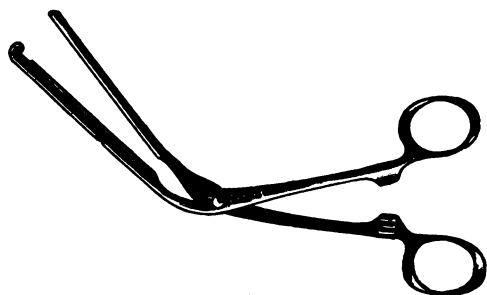
Dr. GODSON, in reply, said that this was what the late Matthews Duncan used to call anterior parametritis; but as a rule there was in those cases a discharge of pus, with inflammatory matting. If that state of things had existed in this case, it must have been some considerable time previously; for she had been for some time in good health, except for the bleeding. Probably, therefore, it was an old abscess.

A NEW BROAD LIGAMENT COMPRESSION FORCEPS.

By F. BOWREMAN JESSETT, F.R.C.S.

Mr. JESSETT showed a new form of broad ligament forceps, and observed that it occasionally happened in performing vaginal hysterectomy, that one met with very short and somewhat thickened broad ligaments, which were very difficult to ligature and which considerably interfered with the tilting of the uterus; in these cases it became almost necessary to abandon the ligature and substitute compression by means of forceps. Messrs Weiss and Son have made for Mr. Jessett the forceps here figured, which Mr. Jessett thinks well suited for these cases; they are light and at the same time strong. By reference to the engraving it will be seen that they are composed of two distinct blades, one furnished with a pin at the point of the hinge and the other being deeply notched out to work round the pin. The blades are so arranged that one has a centre bar which is slightly deeper at the distal end than the proximal, so as to allow of its firmly grasping the thinner tissues at the upper part of the broad ligament. This centre bar, when the forceps are closed, fits into a groove in the lower blade, which groove is also deeper at the distal end than the proximal; the blades, moreover, are serrated on each side of the groove in the one blade and the bar in the other in a herring-bone fashion, so

that when the parts are gripped in the blades it is absolutely impossible for them to escape. The blades being made separately enables the operator to introduce one blade at a time, and this separation of the blades is also of service, in enabling the forceps to be kept absolutely aseptic.



Dr. HEYWOOD SMITH said that he had proposed to bring Braithwaite's broad ligament forceps, to show by the side of Jessett's. His were bent on the flat, so that they passed outwards. Like Jessett's, they aimed at securing an even pressure on the broad ligaments by making the point close before the heel. But he had found that the heel did not close enough. That defect might be remedied in Jessett's forceps by putting on a stronger catch. These instruments required to be very carefully made in order to make the pressure even.

Dr. BANTOCK asked if Mr. Jessett had used the forceps, and if so, with what result.

Mr. JESSETT said he had used the forceps once, with satisfactory results. He had seen Braithwaite's forceps; the disadvantage of them was that they were not enough adapted to the broad ligament. He did not advocate these or any forceps for every case; in fact it was very exceptionally that he used the forceps, as he much preferred the ligature. But occasionally, when the uterus could not be brought down, the forceps was useful. He had tried Greig Smith's forceps, but they presented the disadvantage of requiring to be caught over the top of the broad ligament.

Dr. BANTOCK said he was glad to hear that Mr. Jessett did not advocate the forceps except for occasional use. For his own part, he did not intend ever to use forceps, as he could not imagine any circumstances under which it was necessary. The friable nature of the tissues, and the varying degrees of thickness met with, seemed to him to make the proceeding a dangerous one. He had used some forceps, both from below and from above, in abdominal sections; but these were strong pressure forceps; he had also used the forceps before applying the ligature in ordinary ovariectomy. He had always found that the most resisting tissues were at the cornua of the uterus, and that the base of the broad ligament was easily compressible. Further, it seemed to him that Mr. Jessett's forceps were not strong enough for cases of hysterectomy.

Mr. JESSETT briefly replied.

(1) DOUBLE OVARIAN FIBROID. (2) TWO CASES OF SOFT FIBROID OF THE UTERUS REMOVED BY HYSTERECTOMY. By G. GRANVILLE BANTOCK, M.D.

(1) Dr. BANTOCK said with regard to the specimens of ovarian fibroid he had exhibited at the last meeting, but had been unable to describe, that he had been unable to preserve them in a state fit for presentation again, but he hoped the Fellows would be satisfied with a short note of the case.

On admission into the hospital the patient was suffering from a bad attack of bronchitis, and was not in a fit state for operation. During his absence at the Congress in Rome, the bronchial trouble gradually disappeared, but she developed a high temperature, and fluid accumulated in the peritoneum. The high temperature persisted after his return, and resisted all efforts at reduction for about another fortnight. As the patient was losing ground, he felt compelled to operate without further delay. There was a large amount of fluid in the peritoneal cavity, and on each side a solid fibroid of the ovary, the left weighing 5lbs. and the right 3lbs.

Each pedicle was short, broad, and very friable, and was secured by his usual method of figure 8, and circular ligatures of No. 4 chinese silk. For nearly a fortnight the temperature remained high, but without any unfavourable symptom, and then she began to improve, and ultimately left the hospital in fairly good condition. He could not help fearing that ere long there would be a recurrence, for he had little doubt as to the malignant nature of the disease, and the pedicles behind the ligatures presented a very suspicious appearance.

Note.—Since the above report was written the patient has been twice tapped. As yet, however, no tumour has made its appearance.

(2) At the last meeting of the Society, Dr. Mansell-Moullin, as many would remember, showed a specimen of a large tumour removed with the uterus. He had often remarked that Nature indicates the way in which certain operations ought to be performed; thus, if a tumour protrude through the os uteri, it ought as a rule to be removed by that channel. The rule was not, however, always to be trusted; in the case of the two tumours which he was about to show, although in both instances they came down into the vagina, yet had he attempted to remove them *per vaginam*, the result would probably have been disastrous.

(a) The first was from a patient aged 35, single. First seen in July, 1893. She had been in a general hospital, where she had been examined under chloroform and had been told that nothing could be done for her. A mass protruded into the vagina, and there was a large tumour in the abdomen. The softness of the vaginal mass told him that it would be unsafe to attempt extirpation from below. Abdominal section was therefore done. The tumour was then found to be quite sponge-like, and it would not have been possible to enucleate it completely. The posterior wall of the uterus was so thinned that it consisted of little more than peritoneum. After securing the broad ligaments, an elastic ligature was placed around the base, an incision was carried round, and the tumour enucleated. The growth extended

so far down posteriorly that there was barely tissue enough left to complete the capsule. The latter was attached to the parietes, in the way he had frequently described. She made a good recovery.

(b) The second patient had attended the same general hospital as the previous one, for two years was in much the same condition, and had likewise been told that nothing could be done for her. The operation was done in the same way, and she was about to leave the hospital. The operation was difficult and required a large incision.

He had now operated by this method on twenty-six cases, of which only one had died, viz., on the seventeenth day from Bright's disease.

Dr. T. W. EDEN observed that he was desirous of information on the subject of these soft fibroid tumours. He had only had one or two opportunities of examining them microscopically, and had found very little difference between them and ordinary fibro-myomata, except that the bundles of muscular fibres were separated by fluid. Was there nothing in the clinical history of these cases to point to their true nature? Were they soft from the beginning, or did they start as ordinary fibroids and undergo softening later? The first tumour had eaten its way through the uterine tissue almost to the peritoneum in one place; he gathered from this that it was submucous in its origin; was this always the case? He at least had never heard of a well-marked sub-peritoneal fibroid in this œdematous condition. There was very little known as to the life history of fibroids; and he felt that they must look for information to the operators of wide experience. Soft fibroids were generally regarded as proper cases for hysterectomy; but it was not quite clear to him why this was so, more than in the case of ordinary fibroids.

Dr. BANTOCK said he could not give a satisfactory answer to the very pertinent questions of his young friend, Dr. Eden; the fact was, operators did not usually see these tumours in the early stage, but only when they were ripe for operation. The natural history of these tumours was, as Dr. Eden re-

marked, almost unknown; and it was for pathological workers, like Dr. Eden, to investigate the subject. He had never seen a soft fibroid like this in the pedunculated form, and the only way in which he could distinguish them beforehand was by their physical characters; as soon as he touched one he could recognise it. He could not say at what stage the softening took place. Microscopical examination, which had been made of the present specimen, did not reveal anything different from the ordinary fibroid, except the separation of the muscular bundles by fluid.

(1) DOUBLE HYDRO-SALPINX. (2) DOUBLE PYO-SALPINX AND TUBO-OVARIAN ABSCESS. (3) DOUBLE HÆMATO-SALPINX AND PAPILLOMA. By HEYWOOD SMITH, M.D.

(1) The first specimen was removed from a patient aged 50. She had been married twenty-six years, and had two children, the youngest being 20 years of age, and two miscarriages. She had suffered from varicose veins of both legs and groins for years. She was admitted into Warrington Lodge on May 10, 1894. Vaginal examination showed a hardish mass in the right fornix, and a fulness in the left. Operation on May 21. Dr. Dudley Buxton administered the anæsthetic and Mrs. Scharlieb assisted. The right tumour had pushed the uterus over to the left; both tumours were adherent, but were got out without rupture. The wound was closed in three layers.

The right appendage consisted of dilated tube with the ovary flattened over it; the left tube, also distended, had the ovary below it, and presenting a blood cyst. The operation lasted one hour. Patient left hospital June 16.

(2) M. W., aged 32½, married 7½ years, with no children, was admitted into Warrington Lodge on February 22. Vaginal examination showed the uterus to be partly fixed. On the left side was a large swelling containing fluid. The right ovary was enlarged and tender. Pus could be seen exuding from the os. Operation on June 16, with Dr. Dudley

Buxton and Mrs. Scharlieb. Surgeon-Colonel Laurie and Mr. Hodgson were also present. On the left side a globular tumour was removed, the adhesions being peeled off; the oviduct was thickened: it was tied close to the cornu of the uterus. The right ovary and tube resembled the left, but were not so far advanced. The ovary contained a corpus luteum of about four days. The left ovary and tube formed a tubo-ovarian abscess, containing foetid pus. Operation lasted an hour. Patient left Warrington Lodge on July 12.

(3) S. M., aged 34, married seven years, no children, was admitted into Warrington Lodge June 20. She had had pain in the region of the left ovary for three years; it was worse on walking. Vaginal examination showed that both ovaries and oviducts were enlarged and tender. Operation was on June 25, with the assistance of Drs. Buxton and Scharlieb. The right ovary and tube were adherent to the back of the uterus; the tissue was hard and friable. Papillomata were found studding the peritoneum. The left ovary was adherent, and its separation caused some oozing. A drainage tube was therefore put in. The operation lasted thirty-five minutes. Both oviducts were found to be full of grumous purulent fluid; and the ovaries were full of blood. The tube was removed on the second day.

In one case the patient wished, before the operation, to stipulate that the ovaries should be left; but he said that unless he were allowed an absolutely free hand he would not operate at all.

Dr. BANTOCK said he was glad to hear Dr. Heywood Smith say that if a patient wished to have an operation done according to her ideas, he would refuse to operate. Of the third specimen it was premature to speak, before a microscopical examination had been made; it might be papillomatous and therefore malignant.

Dr. HEYWOOD SMITH asked if the Fellows had any experience of the mode of recovery in malignant cases; in this case the temperature had remained low all through.

Dr. BANTOCK thought it made no difference to the im-

mediate recovery if the case was malignant; he had seen several, and the temperature had been as usual.

Dr. HEYWOOD SMITH suggested that the specimen be referred to a committee to report on; and nominated Dr. Shaw-Mackenzie and Dr. T. W. Eden to act with himself.

CASE OF LYMPHANGIECTASIS OF THE OMENTUM.

BY PROFESSOR KRANTZ.

(Communicated by Dr. Bantock.)

In the beginning of March, 1893, I was asked by my colleague Thomsen to see in consultation with him a girl, aged 15, having a tumour in the abdomen.

Examining her own abdomen she finds that she has a tumour. At the beginning of the year 1893, when it was first observed, it was of the size of a small orange, freely movable, and situated in the lower part of the abdomen. No pains except some cardialgia. Previous to this she always enjoyed perfect health. The tumour has been gradually increasing to its present size. She menstruated scantily without pain the first time in October, 1892, the second and last time in the end of February, 1893, profusely for eight days, accompanied with pains.

The patient, mentally and physically, is well developed for her age, is a little pale, but in good condition and strong. Pulse and temperature normal.

The abdominal wall is bulged forward by a globular, fluctuating tumour, not tender, rising from the pelvis to a couple of inches above the umbilicus. It is situated in the middle of the abdomen, though a little more to the left side. In the common recumbent position it cannot be moved. No contractions in the cyst, no foetal or placental soufflé. The liver is normal; also the right kidney; the spleen and left kidney were not palpable. The breasts are well developed; no

colouring of areola, but Montgomery's bodies are distinct on the left side. No fluid in the breasts.

To make an internal examination the thighs were raised, a little against her abdomen. P.V.—Hymenal ring wide but untouched. No colouring of the introitus vaginæ. As the external band was pressed down behind the symphysis pubis, to my astonishment the tumour was pushed higher up and was easily moved up and down, less from one side to another, and always causing pain in the cardia when I tried to move it over to the right side. No pulsation in fornix vaginæ; uterus of virginal shape, size and consistency. The tubes normal and both ovaries somewhat enlarged, but there was no connexion between the uterus or its appendages and the tumour.

What was the diagnosis?

The suspicion of pregnancy was excluded by the size of the uterus; the absence of any hysterical symptoms and the distinct uniform fluctuation of the tumour also excluded a phantom tumour. As the tubes were found normal and the ovaries only somewhat enlarged, and without any connection with the tumour, it could not be any genital tumour at all. Amongst the retro-peritoneal neoplasmata we have the pancreatic cysts, but these have only a very limited mobility, and with regard to the nephritic or hepatic cysts (*echinococcus* does not exist at all in Norway) not a single symptom pointed in that direction. There were only two possibilities left, a mesenteric or an omental cyst, and of these I thought the last one was the most probable, because pushing the cyst to the other side caused pain in the cardia. Supposing it was omental, movements with the cyst would drag on the omentum, thereby on the stomach, and then pain in the cardia—its suspension point—would be natural enough.

At the following laparotomy (March 16, 1893) the diagnosis was fully confirmed. The cyst was hanging in the omentum majus; no other adhesions. It could not be shelled out; the omentum had to be ligatured and cut off. To make sure that the tumour was not a parovarian or ovarian immigration cyst

the appendages were examined. Both ovaries were larger than walnuts, consisting throughout of small cysts, the tunica albuginea unbroken and shining like mother of pearl. As they were taken for beginning cystoma, and therefore resection would be of no use, they were removed. The patient recovered without a bad symptom and had the whole time normal pulse and temperature; for the present she enjoys perfect health.

The cyst was examined at the Path. Anat. Laboratory, in the museum of which the cyst now is. The size is that of a child's head; it is unilocular, and the wall from 0·5—1·00 mm. thick. Its external surface is smooth and shining, with the exception of some spots (the upper one-third), where portions of the omentum are adherent. Its internal surface is covered with small blood coagules, but when these are removed it also is smooth. The contents are a clear, dark-coloured, almost black, thin fluid. Microscopical examination shows that the cyst wall consists of a more or less cellular fibrillary connective tissue; on the inner surface it seems to be covered by a single layer of endothelial cells. The tubes are normal. In the ovaries there is normal ovarian tissue amongst the cysts.

From this it seems to be evident that the case is a *lymph-angiectasia of the omentum majus*. The continuous growth of the cyst speaks against its origin being an encapsulated hæmatoma: moreover, a bleeding in the omentum would certainly have pierced its way between the omental layers, and a cyst without distinct walls would never have been able to avoid rupture, when its position and its size exposed it to so many different traumata as was the case here.

The special interest of the case is that these cysts are extremely rare, and that the diagnosis was made before the operation. Abdominal tumours have no specific symptoms; the diagnosis ought always to be made *per exclusionem*. Some diagnostic significance may perhaps be ascribed to the cardialgic pains caused by moving the cyst; of course I do not mean that these pains do signify an omental cyst, but they

are suggestive of its connexion, primary or secondary, with the omentum. The profuse menorrhagia ought also to be noticed, as Lawson Tait has found it to be almost a constant symptom of double-sided small ovarian tumours.

The literature of these cysts is not extensive, so far as I know.

*Virchow*¹ never saw a hydrops cysticus of the omentum, only once a cystic degeneration of the omental fat.

*Spencer Wells*² operated on a girl aged 4 years. The ovaries were not examined.

*Ransom*³ did not find any epithelial or endothelial membrane.

*Gooding*⁴ shelled out a thin cyst of the omentum in a girl aged 22 years: no examination of the appendages or microscopical report.

*Armsley*⁵ removed a solid tumour from the omentum, not adherent to the appendages. No microscopical examination.

*Thornton*⁶ has seen some omental cysts, but they were all "cell infection" from the ovaries.

Dr. BANTOCK said that the great interest of this condition was in part due to its rarity. Of its origin they knew little or nothing. He had reported several cases; one was a hydatid; in the other two there was nothing to indicate their nature. One of these cysts (reported in the *Obstetrical Transactions*) was unilocular; another was multilocular, with mucoid contents, in a young girl of 19 years; it had been the subject of considerable difference of opinion before operation.

A vote of thanks to Professor Krantz for his interesting paper was proposed from the Chair, and carried unanimously.

¹ *Berl. klin. Wochenschr.*, 1887, No. 14, p. 248.

² *Brit. Med. Journ.*, 1890, i., p. 1362.

³ *Ibid.*, 1890, ii., p. 1062.

⁴ *The Lancet*, 1887, p. 311.

⁵ *Brit. Med. Journ.*, 1883, p. 578.

⁶ *Ibid.*, 1882, ii., p. 1242.

REPORT ON DR. BENINGTON'S SPECIMENS.

(Shown January 11, 1894, part xxxvi., p. 435.)

No. 1.—This is a Fallopian tube with ovary. The tube presents on its upper surface, in the proximal half, an oval aperture about the size of a compressed pea, which leads into a cavity as large as a cherry, communicating with the lumen. The cavity is filled with blood clot, which extrudes through the opening. The edges of the aperture are smooth and rounded—an evidence of reparative processes succeeding rupture, or perforation at some considerable previous time. It is, in fact, a persistent artificial ostium. The ovary is apparently normal. The piece of substance passed from the uterus three days after operation, presents microscopically the appearance of a mass of round cells, most of which are undoubtedly inflammatory, but some are large, round and oval cells, similar to those found in the deeper layers of the uterine mucosa. There are numerous vessels distended with blood, and here and there intercellular hæmorrhages. There is nothing in these appearances which enables us to state definitely that the tissue is decidual; it may quite well be simply altered uterine mucous membrane, such as may be met with in membranous dysmenorrhœa. If it be decidua, the occurrence of tubal gestation is not proved, unless very early uterine gestation was certainly excluded. Our view, therefore, is that rupture of this tube occurred some considerable time ago, corresponding possibly to the patient's illness in America, probably from tubal gestation, and that an artificial ostium was formed at the site of the rupture. There is no evidence that a second rupture has occurred nor of a second gestation in this tube. We are, therefore, unable to speak definitely as to the cause of the hæmorrhage which necessitated the second operation.

No. 2.—This is without doubt a case of ruptured tubal gestation, the remains of the amniotic sac being visible in the centre of the blood clot.

J. A. SHAW-MACKENZIE.

T. W. EDEN.

R. CREWDSON BENINGTON.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, OCTOBER 11, 1894.

PROFESSOR SAVAGE, M.D., PRESIDENT, IN THE CHAIR.

PRESENT: 32 Fellows and Visitors.

SPECIMENS.

TWO FIBRO-MYOMATA REMOVED BY SUPRA-VAGINAL HYSTERECTOMY. BY DR. ELDER (NOTTINGHAM).

(1) An œdemous fibroid, $5\frac{1}{4}$ lbs. in weight; the patient's age being 47 years; was removed because of alarming hæmorrhages.

(2) An ordinary hard fibroid, weighing $2\frac{1}{2}$ lbs., dumb-bell in shape; the lower and larger part was wedged into pelvis, and by its pressure had invalidated the patient, who was 34 years of age.

Both these cases had the pedicles sewn into the lower angle of the wound, after tying off the arterial supply to the growths and bringing together the peritoneal edges of the stumps left by their removal. The cases had an uneventful recovery.

(3) A SPECIMEN OF PAPILLOMATA, involving, as is usual, both ovaries, removed successfully from a woman, aged 40 years, last April. Prior to the operation she had been tapped for ascites fourteen times, the last within a fortnight of her coming into hospital. Despite the fact that there was some peritoneal infection, she not only made a good recovery, but her health up till now—seven months after—has remained good.

Dr. BANTOCK regretted that what he had to say must

seem to detract from the credit due to Dr. Elder, but if Dr. Elder would consult the literature of this subject he would find that what he claimed as an addition to the usual intra-peritoneal method of treating the uterine stump was long ago advocated by Carl Braun, of Vienna. He devised the method of fixing the stump in the lower angle of the abdominal wound so that, should suppuration take place, the shortest road for the escape of the pus would be towards the surface. He might also recall the fact that this was the method he had himself adopted in his first case, nearly twenty years ago—but that case failed and he had not repeated the operation.

Mr. H. A. REEVES remarked that there was nothing new in the hysterectomy operation described. With reference to the ovarian papillomata cases, he alluded to two which had occurred in his private practice; on one of these he operated. Ascites returned in a few months and the patient was twice tapped, and died within the year. The other case he saw in consultation, and had expressed the view that it was most probably of a malignant nature. He subsequently heard that the tumours were papillomata, with considerable accompanying ascites, and that the patient died in a few months. He thought Dr. Elder should report again to the Society in a year, and if his patient remained strong and well, encouragement would be afforded to operators in similar cases.

DISEASED OVARY, SHOWN BY DR. PURCELL

Lillian W., aged 18, single, a factory hand of Battersea, admitted August 9, 1894, under Dr. Purcell.

Complaints of amenorrhœa and swelling of the abdomen, coming on for last two months; girth at umbilicus 30 inches, and greater towards the left spine; increasing fluctuation, dull on percussion in front; resonant in flanks, and more resonant on shifting. On bimanual examination, a floating tumour is found in left lower abdomen. The areolæ of nipples of breast are dark in colour.

Heart normal, urine sp. gr. 32 ; acid. No albumen.

Sept. 15, 1894.—Abdominal section was performed. A large quantity of free abdominal fluid escaped ; the ovary (shown) was large and elastic, its surface was covered with hæmorrhagic petechiæ ; there were no adhesions ; the pedicle was tied and the ovary removed ; the abdominal wound was closed and dressing applied in the usual way.

The patient did well, wound healed, and she was up within a fortnight.

Pathological Report by Mr. Plimmer.—The tumour when fresh was 9 in. in extreme length, and 3 in. in depth, with a greatest circumference of $10\frac{3}{4}$ in.

It was a multilocular cyst, with intra-cystic growth. The greater part of the tumour was composed of the intra-cystic growth ; but there were two small cysts at the proximal end, filled with thick glairy gelatinous material.

Microscopically the growth was an adenoma ; the cysts were very irregular and were sub-divided by papilliform processes which ran in towards the centre ; in some cases the columnar epithelial cells lining the cyst and these processes were in contact, so that there was hardly any free space in the cyst.

ON CASES OF UTERINE CARCINOMA.

By F. A. PURCELL, M.D.

Case I.—Ellen R., aged 40, married, six children ; admitted Oct. 13, 1893, suffering from carcinoma of the uterus. Cervix deeply infiltrated, large conical shaped ulcer.

Oct. 14.—Under ether, the cavity was scraped, washed and dried, then packed with a piece of gauze, which had been soaked in a saturated solution of chloride of zinc and then squeezed dry. Over this gutta-percha tissue was tightly packed. The vagina was then packed with wool tampons, soaked in a saturated solution of soda bicarbonate.

Oct. 20.—Patient has had very little pain since the packing. Packing removed ; vagina to be douched daily.

Oct. 27.—Whole uterus came away necrosed, thirteen days after operation.

Nov. 11.—Patient discharged, wound quite healthy ; no discharge or other discomfort to speak of ; expresses herself as quite well.

Case II.—A female, aged 44, married, six children, no miscarriage ; admitted Jan. 18, 1894, suffering from carcinoma of the cervix uteri. A hard, nodular growth, extending principally to the right, and posteriorly. Uterus movable.

Jan. 25.—Operated on as in the previous case.

Jan. 29.—Packing removed and douched daily.

Feb. 8.—Slough or the cast passed, apparently the whole uterus.

Feb. 20.—Patient discharged ; no pain. Some slight discharge ; perfect control over bladder and bowel ; patient's condition much improved.

Case III.—Vaginal hysterectomy (29th case in series). The specimen showed the uterus with the entire os and neck occupied by a large epitheliomatous growth. A margin of healthy mucous membrane encircled the disease, and the body of the uterus was small and not affected. The uterus was removed on Oct. 6, from Eliza E., aged 28, married, mother of one child, now 12 years old ; sent to Dr. Purcell by Dr. Butler, of Brixton. She was a thin spare woman, wasted from hæmorrhages and discharge dating back 15 months. She complained of pain in the back, hips and lower abdomen. So much did the growth occupy the vagina, that the extent of the disease along the uterus could not be well diagnosed before operation. The difficulty of incising the mucous membrane of the vagina could perhaps be realised by looking at the specimen. The peritoneum was entered anteriorly. The uterus was anteflexed and the broad ligaments were tied from above downwards. The diseased portion was drawn forcibly down and kept outside, so as to prevent any soiling of the parts within. After removal, the vagina was packed with iodoform gauze, and a winged elastic catheter inserted

into the bladder. The ovaries were small and seemed healthy, so were not removed. The patient so far has done well. Temp. 98.6°, pulse 80, regular. The after treatment included syringing out the vagina through a Ferguson's speculum, and iodoform gauze introduced as a drain.

During last session of the Society, he had shown some cases treated with chloride of zinc; since then he had had others, and intended to have shown some to-night, but unfortunately he had lost (through resignation) his house surgeon, and in consequence had not been able to secure the notes of the cases. One patient he had treated was of timid temperament, and had a small vagina. On the twelfth day, when the cast felt loose, she was placed on the table and had an anæsthetic. The os was contracted to about the size of a florin; the cast was drawn out by means of hooks. This cast was solid in its walls, a quarter of an inch deep, hollow in the centre, and represented the whole of the inner coating of the uterus. Patient did well.

Dr. LEITH NAPIER expressed the hope that the sub-committee appointed to report on the pathological condition of these cases of advanced uterine cancer treated by chloride of zinc, would be able ere long to submit a report.

THE TREATMENT OF MYOMATA OF THE UTERUS COMPLICATING PREGNANCY (WITH CASES). By FREDERIC BOWREMAN JESSETT, F.R.C.S., Surgeon to the Cancer Hospital, Brompton.

Myomata of the uterus complicating pregnancy are of comparatively rare occurrence, in consequence of the infrequency of women suffering from myomata becoming pregnant. It is for this reason, I suppose, that such little notice is taken of the subject in text-books on obstetrics and gynæcology; yet I venture to think that it is a subject of the utmost importance to women, and of grave anxiety to the medical attendant, as he must often be much exercised in his mind as to what course of treatment to recommend.

In the two cases I am about to narrate, both women were in great jeopardy of losing their lives, through the medical difficulty which arose in determining on a definite plan of treatment. One case, when first sent to me, was suffering from a soft rapidly-growing myoma of the uterus; at the same time she was advanced some two or three months in pregnancy. At a consultation with my colleagues it was decided not to interfere, with the result that the woman aborted, and nearly lost her life through septicæmia.

The second case followed nearly the same course; this patient was suffering from extensive sub-peritoneal and interstitial myomata. She suffered much pain, but the question of pregnancy was doubtful. In this case, again, it was decided to wait. Within three weeks she became prostrated from intense abdominal pain, and had some symptoms of septic poisoning, but did not abort. I advised immediate operation and removal of the whole uterus. The pregnant uterus, which was surrounded by myomata excepting on the posterior wall, contained an ovum of about the fourth month of gestation.

These two cases occurred in my practice during the last few months, and I can recall a third which came under my notice some year or two ago. No doubt there are many Fellows present who have had similar cases under their care, and it is with a view of eliciting their experience that I venture to bring the subject before this Society.

Case I.—C. C., aged 36, married eighteen months. No children or miscarriages. Was sent to me on April 24, 1894, by Dr. Atkinson, suffering from a large rapidly-growing myoma of the uterus. The patient had been regular until seven weeks ago. Three weeks ago she noticed a lump in her abdomen, and experienced difficulty in passing water. A tumour is felt in the abdomen reaching to within an inch of the umbilicus. Bimanually the tumour moves freely with the os and cervix. Breasts somewhat enlarged, and areolæ pigmented. The diagnosis was myoma of uterus with pregnancy. At a consultation with my colleagues it was decided not to interfere, but to wait and allow matters to develop. On

May 12, about the tenth week of pregnancy, she aborted. The placenta, however, did not come away, and it was with some difficulty removed with ovum forceps. The uterus was washed out, but was found not to contract. The patient for some days was the cause of great anxiety, as she had much abdominal pain, accompanied with high temperature and hæmorrhage, with symptoms of septicæmia. At the same time, the tumour rapidly increased in size, so much so, that it was deemed advisable to open the abdomen with a view of its removal; it was found, however, to be so adherent to the parietes and surrounding structures that there would have been great risk, in the patient's enfeebled condition, in proceeding further with the operation, and the abdominal wound was therefore closed. The patient made a slow convalescence, and was discharged five weeks later. The tumour had decidedly decreased in size since the operation.

Dr. Atkinson has taken much trouble to find out how this patient has fared. He wrote to me yesterday, six months after operation, "Mrs. C. is going on quite well. There is a little discharge from the wound, otherwise the patient is almost as well as she was before the acute attack of illness began. She gains flesh, walks out, and does her house work and washing. The tumour is smaller and not so tender." She called on me a week later, when I found her looking stout and well. The tumour had decreased considerably in size; there was no tenderness, and she menstruated regularly.

Case II.—J. R., aged 40. Married for twenty years. No family. Admitted July 15, 1894, suffering from fibromyomata of the uterus complicated by pregnancy.

History.—Patient first noticed a lump in her abdomen about two months ago; latterly the tumour has increased rapidly in size. Has had amenorrhœa for the last three months. Breasts somewhat full, with pigmented areolæ. Has never had any children or miscarriages. Complains of a great deal of pain over tumour.

Present Condition.—In the abdomen is felt a hard rounded tumour which reaches to the umbilicus; another

portion is felt on the left side. *Per vaginam* the tumour is found to move with the cervix. The sound was not passed.

Girth round umbilicus, thirty-nine inches.

From umbilicus to left ant. sup. sp., eight and a-half inches.

From umbilicus to r. s. sp., nine and a-half inches.

From umbilicus to symphysis pub., seven inches.

A consultation was held, and it was decided to advise the patient to wait and report herself in a month's time.

August 10.—Her husband called to see me, saying his wife had been very seriously ill, and Dr. Newberry, her medical man, had advised her to have something done at once. I gave an order of admission to the hospital. On admission she was very collapsed and in great pain. Had had a slight rigor and was sweating a good deal. The tumour had increased considerably in size, reaching some two or three inches above the umbilicus. Girth round umbilicus forty and a-half inches. Foetal heart could not be heard. *Per vaginam* the os could be reached with difficulty. The patient was put to bed and kept perfectly quiet for two days. She had no more rigors, but had night temperature reaching $101^{\circ}\cdot 5$ and was obviously getting worse.

August 14.—Under ether, with the assistance of Mr. Cotterell and Dr. Purcell, I proceeded to operate. A long incision was necessary, extending to an inch above the umbilicus. The tumour was then expressed, and the uterine arteries and round ligaments ligatured on each side and divided. Anterior and posterior peritoneal flaps were cut from the surface of the tumour and reflected; in the meanwhile Dr. Purcell passed a large Ferguson's speculum into the vagina, and I was enabled in this way with my fingers to detach the flaps quite down to the vaginal roof which was divided anteriorly and posteriorly on the speculum. The uterine arteries were secured, and the whole uterus with its tissues lifted out. All ligatures were left long and conducted down through the vagina. Sutures were then passed through the peritoneal flaps and formed into large loops, and these were drawn down through the vagina. By this manœuvre

the flaps were brought down in such a manner as to cause the peritoneal lining to be in accurate apposition. The abdomen was washed out, the toilet of the peritoneum attended to, and the abdominal wound closed in the usual manner, the vagina was packed with iodoform gauze. The operation lasted one hour and a-half. The patient made an uninterrupted recovery, and was discharged on September 15, just a month after the operation, she having been up for ten days before.

On examining the tumour, a soft elastic prominence was felt in the posterior surface. On cutting into this, a foetus was found, which had apparently been dead for some days. There was very little liquor amnii.

Remarks.—Myomata of the uterus may be either subperitoneal, interstitial, or submucous, and it will be of interest to see how these different forms of myoma affect or interfere with pregnancy. Subperitoneal myoma, we are told on the authority of Dr. Lusk and others, prevent conception and interrupt utero-gestation only when they attain large dimensions, and their prejudicial influence is then usually referable to the retro-version or retro-flexion which they induce. Submucous myomata rarely permit of gestation, and in the event of its occurrence it is almost uniformly followed by abortions usually due to hæmorrhage. Interstitial myomata are more likely to result in abortion than the subperitoneal, either by their producing uterine flexion, or by acting as the exciting cause of hæmorrhages which are more severe when the placenta is located over the site of the tumour. This statement, Dr. Lusk says, applies particularly to *post-partum* hæmorrhage, inasmuch as the muscular atrophy induced by the myoma prevents the ready and complete closure of the uterine sinuses.

In these cases it is often most difficult to diagnose if a patient, who is suffering from myomata of the uterus, is pregnant; on the other hand, the fact of pregnancy being present frequently masks the existence of myomata, small fibrous tumours being mistaken for the foetus.

In the case of subserous myomata, these are more commonly met with in the posterior wall, in which case it may be easy to recognise the uterine souffle or the foetal heart sounds, but in both the cases I have narrated to you the tumour was in the anterior wall, while the uterus was pushed behind.

Now myomata, if small, in most instances do not produce any symptoms during pregnancy, and indeed do not interfere with labour, but when they become large, most urgent symptoms may be created by pressure during pregnancy.

In discussing the question of treatment of these cases in the early stages of pregnancy, it would be well to confine ourselves to those instances in which the myomata are of considerable size. As I have already said, if they are small there would be no occasion to interfere in any way, but to allow Nature to take its course.

It is in those cases in which the size of the tumour threatens to interfere with the later stages and progress of pregnancy which give us so much anxiety. The parents are naturally unwilling to allow premature labour to be induced, and to operate with the view of enucleating the growths is certainly not devoid of risk. Drs. Lusk and Kessler report a case where, after the expulsion of a four-month foetus, it was found impossible to reach the placenta, which occupied an inaccessible position near the right cornu far out of reach of the hand, while the convexity of the tumour was so great as to interfere with the working of ovum forceps or the curette. The patient died of septicæmia. Removal of the uterus might possibly have saved her life. Kaltenbach has recorded a case in which he removed the uterus between the fourth and fifth month, amputating through the cervix. The patient made a good recovery. The largest tumour is reported to have weighed seven pounds.

T. Landau has recorded eighteen cases in which amputation of the pregnant uterus has been performed owing to the presence of myomata; of these eleven recovered and seven died.



**MR. JESSETT'S SPECIMEN OF MYOMATA OF THE UTERUS COMPLICATED BY PREGNANCY.
SECTION OF TUMOUR, SHOWING FŒTUS AS EXTRUDED.**

The position of the myomata is an important factor to consider in connection with the treatment. Thus, if the myomata are pedicled or subserous and situated at the fundus or anterior surface of the uterus, if serious complications arise from their pressures, it would, in my opinion, be quite justifiable to open the abdomen and enucleate the growths. Landau has collected seventeen of such cases, of which four ended fatally; one of these had a large broad-based multiple tumour, one suffered from nephritis, and two occurred before the days of antiseptic surgery.

In two of the fatal cases, and in four where recovery took place, abortion followed.

In those cases in which the growth encroaches upon the cervix, or in the cases of subserous myomata extending into the pelvic cavity, most serious obstruction occurs. These happily are of rare occurrence. In such cases operative interference of some kind must be undertaken, but so long as the child is living this may be postponed until the end of pregnancy or until some urgent symptom occurs indicating the necessity for active interference. In some of these cases when the tumour is intra-vaginal, tumours of considerable size have been enucleated *per vaginam*; in others they have been successfully removed by *morcellement*. Thus Maundé has recorded a case of pregnancy advanced to the sixth month, in which an interstitial myoma of the anterior wall and cervix filled the pelvic cavity almost to the vaginal orifice. This tumour he successfully removed *per vaginam* by enucleation, the foetus and placenta then being readily removed. Similar cases have been recorded by Braxton Hicks, Schröder and others.

In cases of extra-vaginal myomata the growth is usually of cervical origin. In such cases either Cæsarean section or Porro's operation appears to be indicated, but this large question would occupy far too long a time to discuss now. Moreover, it is beyond the compass of this paper, as it is to the question of the treatment of cases in the early stages of pregnancy to which I am alluding.

I have looked up the literature as given in different text-books, and have been much astonished at the slight notice taken of it.

Thus in the "American System of Obstetrics and Gynæcology," in an article on "Non-malignant Tumour of the Uterus," written by Dr. Stansbury Sutton, he says: "Pregnancy and labour are occasionally complicated by the existence of fibro-myomata. The preservation of the life of the mother may depend upon the removal of the growth, the induction of premature labour, or Cæsarean section." Then he says: "This subject belongs more properly to obstetrics, but a signboard may at least be properly erected here for the student." Then referring back to the same work, to the article by Dr. Parvin, on "Pregnancy, and the Anomalies of the Forces of Labour," he says: "Uterine myomata, whether of the body or cervix, complicate labour, when by their size and position they interfere with the action of the uterus," &c.

In the next paragraph he tells us that Stratz's statistics show that of thirteen women in whom labour was complicated with fibro-myomata of the uterus, seven died, and only four had a normal lying-in.

But he tells us nothing of the complications which may arise in early pregnancy, or of the treatment to be adopted. Yet from these statistics of Stratz's, by which it is shown that seven out of eleven cases which were allowed to go their full term died, how important the question of early interference must be to the mother.

Galabin, in his "Manual of Midwifery," is equally silent. Although he observes when fibro-myoma are present, they may lead to abortion or premature labour; and that they may cause inefficient or irregular contraction of the uterus, *ante-partum*, or more frequently *post-partum* hæmorrhage; the latter depending upon the failure of the uterus to contract.

Dr. Playfair, in his "Science and Practice of Midwifery," p. 268, says the treatment of these cases will vary with the size and position of the tumour. If the position of the tumour

be such as to render it certain to obstruct delivery, the production of early abortion is perhaps the best course to pursue. In several instances, either the removal of the tumour by abdominal section (myomotomy), or removal of the tumour and the gravid uterus (Porro's operation), has been resorted to with a fair measure of success. He further says the risks of pregnancy should be avoided in every case in which uterine fibroids of any size exist—the patient being advised to lead a celibate life.

Playfair points out that inasmuch as uterine myomata are structurally similar to the uterine walls, they partake of the growth of the uterus during pregnancy, and frequently increase remarkably in size.

Caseaux says: "I have known them in several instances to acquire a size in three or four months which they would not have done in several years with non-pregnant conditions. Conversely, they lessen considerably in size after delivery, and cases are on record by Playfair, Duncan and others, in which they have totally disappeared."

Pozzi, in his "*Traité de Gynécologie*," gives the mortality in cases which are allowed to go their full period, and are suffering from interstitial fibroids of the uterus, as 50 per cent. in mothers, and 66 per cent. in infants; whereas the mortality after operation in similar cases was about 25 per cent.

In Dr. Macnaughton Jones' book on "*Diseases of Women*" he refers to the subject and quotes a case of Dr. J. Byrne's, recorded in MacClintock's "*Diseases of Women*," p. 116, in which a woman was affected with interstitial fibromata. There was a triple conception, gestation being prolonged to the ninth month. On September 22, 1858, the mother was delivered of a female child. She was brought to the Rotunda when a second child was born, the third child being extracted. She died in three hours of collapse. Might not this patient have been saved by total removal? With regard to the appropriate treatment of these cases Dr. Macnaughton Jones is silent.

Dr. Henry Baugh¹ recorded a case at the Chicago Obstetric Society of Miss L., aged 36, single; last menstruation July 1, 1893; who presented herself in November of the same year. She had two large fibromata of the size of two fists embedded in the fundus, and about ten smaller ones in the body of the uterus complicated with pregnancy. This case was operated on. The broad ligaments were clamped on either side and divided, anterior and posterior flaps were made, and the bladder pushed forward and the rectum backward. The uterus was transfixed with needles at the region of the internal os, and an elastic ligature applied below. The tumour and uterus were then cut off above the needles and sutured to the lower angle of the abdominal wound. The patient died on the fifth day from sepsis.

Dr. Crofford² records a case. A woman aged 30, married four years. No children. She was six months pregnant, had been in labour six days. But the uterus could not empty itself on account of a tumour, so shaped as to block the pelvis, and so grown in and around the cervix as to prevent its dilatation. He first placed the woman in the lithotomy position and pushed the tumour on one side and reached the uterus and delivered the child and finally the placenta. The patient had urgent symptoms, first from exhaustion, then from septicæmia. He decided then to open the abdomen and endeavour to remove the uterus and tumour. He found it so firmly adherent that he had to be satisfied by removing the ovaries and appendages, and closing the wound. The symptoms six days later became still more formidable. Temperature 106°, pulse 145. He then decided to try and remove the growth *per vaginam*; this he did by removing large slices with scissors and knife. The whole uterine canal was thoroughly curetted, irrigated and packed with sterilised gauze; she did better for three days, when this procedure was repeated. This was done some half a dozen times, till the

¹ *American Journal of Obstetrics*, vol. xxix., p. 496.

² *Ibid.*, vol. xxviii., p. 398.

entire fibroid tumour and a portion of the uterus were removed *morcellement*. *Mirabile dictu*, finally the patient made a complete recovery.

Dr. John Phillips¹ has drawn attention to the difficulties that may be encountered in producing abortion in some cases owing to the elongation of the cervical canal. In one case Dr. Etheridge² details a case in which abortion was attempted and supposed to have been successful, but subsequent operation showed that a three months' ovum was quite intact. The cervical canal was found to be five and a-half inches long produced by a fibroid in the anterior wall.

Mr. Knowsley Thornton³ performed myomotomy on a case in 1879, but labour supervened, constant sickness and death following. Landau and Schröder have recorded successful cases, labour occurring at term, while Martin's and Krukenberg's cases both ended fatally in consequence of the occurrence of abortion.

Dr. John Phillips gives a table of nineteen cases of ablation performed by Müller; he points out that this operation must not be confounded with the Porro-Cæsarean operation, which consists of utero-ovarian amputation, while Müller's operation may be defined as abdominal section with removal of the tumour and the uterus containing the non-viable fœtus. There is no question here of the life of the child, the maternal conditions being so grave as to preclude the pregnancy going to term. In 19 such operations there were 7 deaths—36·8 per cent. mortality.

Fortunately, the complication we are discussing does not commonly exist, but occasionally it does occur, and that when least expected, as in my second case. Here was a patient, married, aged 40, who had never been pregnant, and did not suspect pregnancy when she consulted me. That her life was saved by prompt action and removal of the whole uterus and tumours, I think there can be no doubt.

¹ *British Medical Journal*, vol. i., 1888, p. 1331.

² *Journal American Medical Association*, 1886, vol. ii., p. 406.

³ *Obstetrical Society Transactions*, vol. xxi., p. 163.

In the first case, had I operated at once and removed the organ, I have no doubt it could have been done readily, and the patient relieved of her tumour and sent out well. As it was, abortion took place, the patient lost much blood, and was on the borderland of dying from septicæmia; this complication causing peritonitis and adhesion of the growth and uterus to the surrounding parietes and intestine, which in her weak state precluded the possibility of its removal with any fair chance of success.

Finally, then, it appears to me:—(1) That in those cases of sub-peritoneal myoma which are either pedunculated or situated in the body of the uterus, if growing rapidly or of large size, the surgeon would be justified in opening the abdomen and enucleating the growths. (2) In cases where there are a large number of sub-peritoneal and interstitial myomata of considerable size studded over the uterus, and these are found to be increasing, I think the whole organ and tumour should be removed. (3) In cases of interstitial or submucous fibro-myoma complicated with pregnancy, statistics seem to show that the risk to the patient is greater if left to go the full period than if abortion is produced or the organ removed. (4) Cases in which the growths are limited to the cervix may be allowed to go their full term, as the growth, if presenting in the vagina, may be either enucleated or removed *morcellement* at the end of the period.

Dr. ROUTH said Mr. Jessett's paper was very important, for the exact course to be pursued in all cases of pregnancy complicated with fibroids had not been discussed fully by English writers. First, he had been surprised to find, in conversation with American writers of position, that some of them even maintained that conception in these cases was well-nigh impossible. He (Dr. Routh) was sure it often occurred, and if the tumours were small, gestation went on safely to the full term. In cases of extra-uterine fibroids, unless they were large, this was especially true. Secondly, if this was true, then necessarily a mishap would not invariably follow. Only in those cases in which the fibroids were numer-

ous and not over small, and scattered throughout the uterus so that dilatation of the organ was impeded, did miscarriage occur. Thirdly—Moreover, fibroids might exist in a case especially if in the posterior wall, and not be discovered till labour occurred. He mentioned the case of a lady who had one as big as his two hands, placed palm on palm one upon the other, and about three and a-half inches at its centre, in which the patient went to her full time. The tumour arrested the labour, but at last he overcame the difficulty by using the forceps, and the patient was safely delivered. Mother and child did well. But, fourthly, it was quite possible for a woman to have a *very large tumour* and yet go to full term and be safely delivered. He mentioned a case which he first saw about the sixth month of pregnancy. She did not know that she was pregnant. She was seen by two other practitioners—one who had completely overlooked the pregnancy, while the other did suspect such a condition. Now, the diagnosis of such cases must be difficult. The early history, perhaps extending over some years, was known to be that of a fibroid, with or without hæmorrhage. Auscultation would reveal a souffle which might be in the usual place of a placental souffle, and if amenorrhœa were present, the breasts might be suspicious. It was so in this case, but by very careful examination the end of the stethoscope got two or three blows, which were clearly foetal movements, and he heard the cardiac beats of a foetus. It was clear, therefore, that pregnancy co-existed; but now here was the difficulty, the fibroid was about the size of a child's head, and occupied the lower portion of the uterus, so that delivery *per vias naturales* appeared impossible. The case was admitted to the Samaritan Hospital, but as the patient was very well, it was decided to let her go the full period and then perform Porro's operation or Cæsarean section. The expectations of so interesting an operation were, however, fortunately disappointed. One fine day the child within the uterus turned over, the tumour and the child apparently had changed places. Labour soon came on. The head presented, and

all went on well. One, after a very little reflection, could see how the force of gravitation would after a time be very prone to bring about this change of position. The presence of amniotic fluid in the uterus allowed free movements of the child. The head, as the heaviest part, had a tendency to occupy the lowest position, and so delivery *per vias naturales* became the complete solution of the difficulty.

The last point to which he would refer was the fact often observed, that if during pregnancy these tumours did enlarge sometimes, much more frequently after labour they disappeared sometimes very rapidly, even in two or three months, and in future pregnancies were not perceived.

Dr. HEYWOOD SMITH said that it was generally considered that all cases of fibroids complicated with pregnancy possessed a considerable element of danger, but he ventured to say that such danger was relative to the proportionate development of the fibroid to the pregnancy, and he suggested a classification to aid in the proper placing of these cases: (1) Those where the fibrous tumour greatly preponderated and dominated the pregnancy. In these cases the foetus was prevented growing by means of the unyielding nature of its environment; (2) Those cases where the fibroid, though large and perhaps multiple, yet does not wholly hamper the uterus in its pregnant development. These cases should be carefully watched, and might be found gradually to yield, so that parturition at some time or other might take place; and (3) Those cases where the fibroids, though interstitial, were not of such a size or position as to interfere with the natural enlargement of the uterus, and where labour occurred naturally, or nearly so, with but little unusual risk to either mother or child. The first of these classes alone would necessarily call for operative interference.

Dr. BANTOCK was of opinion that the text-books would bear a considerable amount of revision on the subject of the paper. He had seen a large number of cases of pregnancy associated with uterine fibroids—single and multiple—and he had not seen any of the accidents usually ascribed to this

condition. The presence of one or more fibroids seemed to have little or no influence in preventing impregnation, and his experience went to show that hæmorrhage or placenta prævia was not more common in these cases. A sub-peritoneal (pedunculated) or intra-mural fibroid, so long as it did not obstruct the pelvis, interfered neither with pregnancy nor delivery, more than an ovarian tumour, and then only in proportion to its size. A tumour involving the lower segment of the uterus may obstruct delivery. But it is remarkable how nature even provides for these cases. He quoted a case in which he was associated with the late Dr. Edis, who requested his opinion as to the advisability of surgical interference at an early period of pregnancy. A large fibroid occupied the left side of the uterus, extending from low down in the left side of the pelvis to near the left false ribs. He advised non-interference in the belief, founded on experience, that as pregnancy advanced the tumour would rise out of the pelvis and allow the passage of the child. That was just what happened. He was present at the delivery—in case of accident—and the labour was one of the most favourable he had ever seen, in all respects. This patient has had three children since, all satisfactory and normal confinements. He had an opportunity of examining her at an early period—within two months—of her last pregnancy, and had he not known that she had had a fibroid he would have said the uterus was normal. In another case he had seen an intra-mural fibroid rise, with the growth of the uterus, diagonally across the abdomen from the right groin to the left false ribs. That patient had two perfectly normal confinements to his knowledge. No situation of a fibroid or fibroids seems to exert any influence against impregnation—not even the submucous—and as a rule, the case should be left to nature. The only exception he would make would be in the case of a very large tumour, in which case it runs on all fours with the ovarian tumour, with this exception, that the more advanced the pregnancy the easier be-

comes the operation for the removal of the tumour, through lengthening of the broad ligaments.

Nor did he think that patients were more liable to abortion. There was only one condition in which this was apt to occur, and that was when the uterine cavity was surrounded with many fibroids. Under these circumstances it would seem that the uterus cannot keep pace with the growth of the foetus, and then abortion takes place. But it was far better that nature should do this than the doctor, for the patient stood a better chance in the former case. If induced abortion should become the rule in these cases, he felt confident that disaster would be the result, and that the practice would not stand the test of experience.

Dr. R. T. SMITH remarked that Mr. Jessett in his most valuable paper had referred to the fact that fibrous tumours developed rapidly if the uterus, the subject of them, became gravid. There was a correlative truth, that fibrous tumours in a gravid uterus, after the emptying of it by abortion often disappeared with great rapidity and completely. He instanced a case where at about the fifth month, with a fibroid the size of the foetal head at full term, miscarriage occurring, the tumour rapidly subsided, even to complete absorption, and within sixteen months the patient had a normal delivery at full time, and with perfect convalescence. He could not quite accept the optimistic views expressed by Dr. Bantock. The paper had reminded him of an instance where pregnancy occurred in the upper portion of a fibrous tumour, where at least six to seven inches of solid fibroma existed between the site of the child and the os uteri. Hæmorrhage setting in profusely, Cæsarean section was performed, unhappily without saving the mother. Here it was found that the placenta dipped deeply into the fissure leading to the os uteri (the canal at the *post-mortem* was found to be eight inches long) and the hæmorrhage proved to be intractable and fatal. Nowadays, undoubtedly, in such a case the uterus would be removed. The danger of intractable hæmorrhage due to implantation of the placenta in a fibrous portion that could not contract, was

a real danger. He had experience in consultation where, at a miscarriage at the fifth month, all attempts to get at the placenta had proved unavailing, and death occurred in a few days from septicæmia and hæmorrhage. Speaking generally, it might be strongly affirmed that the issue of pregnancy associated with fibroma was very satisfactory, many fortunate "curiosities" undoubtedly occurred, and a policy of waiting was wise. He was of opinion that Mr. Jessett had well demonstrated how modern surgery furnished aid for the more desperate cases.

Dr. GODSON considered that sub-peritoneal fibrous tumours, unless large, as a rule interfered little with pregnancy. It was not uncommon for him to find them after parturition on placing the hand on the abdomen to give attention to the uterus. There had been no previous knowledge of their existence, and they did not interfere with proper uterine contraction, or give rise to hæmorrhage. During labour it was often possible to push up a sub-peritoneal fibroid that was occupying the pelvis and preventing the descent of the foetal head, permitting the application of the forceps, and delivery. When pregnancy occurred in a patient known to have a fibrous tumour in the pelvis, that could not be made to rise, Dr. Godson considered that an early abortion was not only justifiable, but the proper course to pursue; and, in cases where large fibrous tumours, not in the pelvis, but occupying the abdominal cavity, encroached upon the space required by the gravid uterus as it continued to increase in size *after the seventh month of pregnancy*, then the induction of premature labour was indicated to relieve the patient of further distress.

Dr. MACNAUGHTON JONES said that all past experience showed that according to the position of the fibroma and its situation in the uterus, so the relative danger to the mother and child existed, *i.e.*, whether it was in the fundus or cervix, interstitial or submucous, or sub-peritoneal. Pozzi and other authors devoted a considerable space to the consideration of the subject, and Spiegelberg dwelt on the various dangers

that arose during pregnancy and labour. *Interstitial* growths, if uninterfered with, were, as proved by the French statistics, specially dangerous both to mother and child; over 50 per cent. mortality occurring in both instances. Of thirty-five cases operated on by various surgeons, ten had died; five of these after simple myomectomy, and five after supra-vaginal amputation, the latter step having been carried out in eighteen cases of interstitial growths. He thought that if we thus looked at the risks arising from placenta prævia, from inversion, and *post-partum* hæmorrhage, the dangers were much greater than some speakers seemed to realise. He referred to such cases as the one exhibited by Mr. Jessett. He had on some few occasions had the most alarming hæmorrhage in consequence of fibroids. The determination as to whether abortion should be induced at the third month, or whether any form of hysterectomy should be practised, depended upon the features of the individual cases and its histological characteristics. Decidedly in some the duty would devolve of performing myomectomy or supravaginal amputation rather than pursuing the expectant plan and trusting to nature.

Mr. WM. ARMSTRONG (Buxton) mentioned the case of a lady seen five years ago, who had a large fibroid. She became pregnant, and was strongly pressed to have abortion induced, but declined, and had an easy labour and made an excellent recovery. This summer an opportunity was afforded him of examining this patient, and all trace of the fibroid had disappeared, although she was now only 30 years of age. He had seen very dangerous symptoms come on in several cases where abortion was brought on in fibroid cases, and his practice would be to let the patient go to term in the slighter cases, and in the more severe to suggest an operation like the one so admirably carried out by Mr. Jessett.

Dr. PURCELL said he would not touch on the pathology of myomata and the complications of pregnancy when arising in connection with them, but referring to the method of operation adopted in Case 2, at which he was present and assisted, he believed that this method had now been tried

by Mr. Jessett on three occasions, and was sorry Mr. Jessett had not, in his paper, gone into its description. After the vessels of the broad ligament had been tied, and the posterior and anterior flaps had been formed and bleeding vessels secured, the dissection of the neck of the uterus was performed by snips of the scissors, the uterus being supported by a long Ferguson's speculum passed *per vaginam*, pressing the os and vault of the vagina upwards, a strain at the same time being made by pulling the tumour upwards until the entire os was dissected around and the tumour withdrawn; all hæmorrhage was carefully arrested. The crux of the operation now came in the treatment of the flaps. Some six or eight long silk sutures were passed through both flaps so that the loops would draw the two edges downwards by means of the ends being passed downwards through the speculum and out at the vulva. The sutures were secured by an assistant, the corresponding ends tied in a knot. When all were passed a gentle strain was made on them, thus drawing the inverted flaps down into the vagina, bringing their peritoneal surfaces together in apposition. Closing by this means the abdominal cavity, no tying of the sutures is made, the strain on them being sufficient to keep them in position; the toilet and closure of the abdomen was done in the usual way; the speculum removed from the vagina, and the vagina firmly plugged with iodoformed blue gauze, completed the operation. The position of the patient is of importance—the head turned to the window, and the lower part of the body raised by elevating the table, so that the light is thrown into the pelvis.

Dr. Purcell thanked the author for his paper.

Dr. T. B. GRIMSDALE (Liverpool) said that of the various points raised in the paper he would only consider one, namely, the treatment. He quite agreed with the reader of the paper, and the various subsequent speakers, that the size and situation of the tumour was the important point in regulating the management of a case of pregnancy complicating fibroid tumour of the uterus; at the same time it appeared to him

that Mr. Jessett leant rather too much towards hysterectomy as the treatment most generally applicable.

Dr. Grimsdale thought that, speaking generally, the majority of cases met with would fall under the head of those that should be left alone. A certain number would be best treated by rapid dilatation of the cervix with Hegar's dilators, and extraction of the foetus and placenta at one sitting. Only a small residue would require hysterectomy. As regarded myomectomy, he did not think that this operation was to be recommended, seeing that abortion so frequently followed closely upon the operation, adding materially to its danger. With reference to the induction of abortion, while fully convinced of the danger attaching to this operation when performed in the ordinary way with bougies, &c., he thought when the uterus was emptied rapidly in the way indicated, the danger of septicæmia was avoided, and the risk much reduced—certainly far below that of hysterectomy.

Dr. LEITH NAPIER thought that the situation of the fibromyoma was of the greatest importance, next, the size of the tumour, and thirdly, a consideration of the influence exercised on the uterine walls by the presence of such growths.

It had been recognised that all uterine fibroids were originally intra-mural; if the tumour became sub-peritoneal and lay above the pregnant uterus, it was of little consequence. It was true that such tumours might become displaced low in the pelvis, and obstruct the advance of the child; on the other hand, the tumour might be pushed down by the advancing head till it was outside the vulva, and the pelvic canal thus left free—such was, however, very rare. More usually, the uterine contractions tended to pull the tumour above the brim, and aiding this by anæsthetisation and manual assistance unquestionably gave the safest result. It depended much on the place of attachment and the length of the pedicle. The relative size of the tumour and of the child's head, and the strength of the pains were the important considerations. If the tumour had become sub-mucous and pregnancy occurred, the tumour

usually gave way to the gestation, although post-partum hæmorrhage might be probable.

Intra-mural fibroids were the most dangerous. If small, he agreed that there might be little bar to pregnancy or the continuance of gestation, and little danger attending delivery. But fibroids in this situation favour the occurrence of uterine rupture by bringing about degeneration of the uterine wall. Now it was said that the higher in the uterus the tumour, the less the danger. This he was not prepared to accept as a universal rule. A cervical fibroid was not a common condition; if small, it would make no appreciable difference to the labour. If large enough to impede dilatation it could be readily treated. Enucleation of the fibroid and subsequent speedy delivery gave the best results. But it was otherwise with an intra-mural fibroid of considerable size situated in the body of the uterus. He believed that the posterior wall was a more usual site for rupture of the uterine wall than was generally admitted. When one recollected the fact that the great uterine stretching was more on the posterior than anterior wall, it was evident that the presence of a fibroid might bring about thinning and atrophy, and predispose to rupture. It had been proved that the majority of ruptures happening during the course of an impacted delivery began in the lower segment; but this postulated dystocia from blocking of the pelvis, either from a tumour or from pelvic contraction, or from very large size of the child. It was otherwise when a tumour had caused degeneration of the uterine wall. During labour rupture of the cervix happened in 55 per cent., of the body in 35 per cent., and of the fundus in about 9 per cent. of all cases of uterine rupture. But it was unquestionably difficult in many cases to determine the starting point of the rupture. The ruptures at the fundus were most frequently due to intra-mural fibroids with, or sometimes without, forcible attempts at delivery. He related the history of a patient, the subject of a large fibromyoma in the posterior wall near the fundus, whom he had seen on three occasions in consultation at different confine-

ments. Each time there was placenta prævia and version was employed ; the third time the patient had been delivered, but died before he could see her with her doctor. He agreed with the speakers who held that in many cases fibroids did not prevent conception or interrupt pregnancy.

As to treatment, no general rule could be laid down. Induction of abortion or of premature labour was not always a safe procedure. He related a case in which, in consequence of very large multiple fibroids existing, and pregnancy having occurred, induction of abortion was effected. The patient subsequently underwent a severe inflammation in the tumour, and died. In this case it would probably have been better to have permitted the child to become viable, and operated as Mr. Jessett had done. But it was felt that the risks of this were very great, as the patient was the subject of Bright's disease.

Now while Porro's operation seemed the right practice in cases of pregnancy which were so complicated by fibroids that delivery *per vaginam* was impossible, it was hardly desirable to regard this as the only treatment, should uterine rupture have taken place. If the rupture were in the fundus or corpus uteri, possibly it was the best thing to do ; but if the cervix and vagina were torn, Porro's operation would not only be of little good, but from the additional shock might add to the patient's danger. Opening the abdomen and suturing the wound (and tying the ovarian arteries), would probably be better, as had been recently shown by Merz. If suturing the uterine wall was found very difficult, drainage by iodoform gauze or by a rubber or glass drain might be employed.

He thanked Mr. Jessett for having afforded the Society the opportunity of considering and discussing a subject of such great and universal importance.

In reply, Mr. JESSETT thanked the Fellows of the Society for the interesting discussion which had taken place on his paper, and observed that he fully recognised that myomata of

small size might co-exist with pregnancy without causing any particular trouble, and he had drawn attention to this in his paper, and stated that in such cases interference was not necessary. It must not be forgotten, however, that frequently, even in these cases, the myomata might grow considerably, and then trouble might be feared. He quite agreed with the remarks of Dr. Clement Godson, that in some cases small fibroids might never be discovered during pregnancy, also that when these tumours grew from the cervix and occupied the pelvis, they could often be pushed up so as to allow of the application of forceps for the delivery of the child. While agreeing with Dr. Bantock and others that fibroid did not prevent pregnancy, yet he thought it an indisputable fact that women suffering from fibroids did not conceive so frequently as those who were free from fibroid growths. It had been proved that these fibroids, when existing with pregnancy, often increased greatly in size, but after the birth of the child they rapidly decreased, and in some instances seemed to disappear altogether. With regard to hæmorrhage, both *ante-partum* and *post-partum*, he had seen some cases in which the hæmorrhage had been alarming, and this he attributed in the former case to the placenta being situated over one of the fibroid growths, and in the latter to the inability of the uterus to contract and close the vessels.

He was quite at issue with Dr. Bantock when he said the position of the fibroid (as regards the uterus) was not important, as he considered, and had shown in his paper, that this was of the greatest possible importance. As regards the treatment to be recommended, he was pleased to find Dr. Macnaughton Jones' and Dr. Leith Napier's experiences agreed with his.

Dr. Macnaughton Jones had referred to statistics as given by Pozzi,¹ viz., that 53 per cent. of the mothers and 66 per cent. of the children died if the gestation was allowed to

¹ "A Treatise on Gynæcology," by S. Pozzi, M.D., *Syden. Soc. Trans.*, vol. i., p. 422.

go its full period; this was quite in accord with Stratz's statistics, and should, Mr. Jessett thought, be sufficient argument to support the conclusions he had arrived at in his paper. He (Mr. Jessett) thanked Dr. Purcell for alluding to the method of removal of the entire uterus, as practised by Mr. Jessett in this case and two others, all of which had been successful, the patients making easy recoveries, similar to an ordinary ovariectomy or vaginal hysterectomy. He believed as this method became more known and practised it would gain favour, and although he did not anticipate conversion of those surgeons who had adopted the extra-peritoneal method of performing abdominal hysterectomy, yet he hoped his experiences might be of service to some of those who had not yet been wedded to any one particular operation.

ORIGINAL COMMUNICATION.

EXTRA-UTERINE OR ECTOPIC GESTATION.

By J. A. SHAW-MACKENZIE, M.B.Lond.

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THE condition of ruptured extra-uterine gestation may be classed as one of the surgical emergencies which may occur in the practice of any medical man, and occurs more frequently than hospital statistics lead one to suppose. In recent years, however, the subject has come so prominently into notice, partly from the brilliant results of abdominal surgery, partly from the difficult and interesting questions surrounding its symptoms, pathology and treatment, that the course of events is pretty well defined, and the possibility of this emergency pretty generally recognised.

The following cases and notes will, however, I hope, add something to this important subject, and help to emphasize the symptoms, the differential diagnosis, the causes, the pathological considerations and treatment, as clearly as possible.

Definition.—It has been generally taught that when the spermatazoa were finding their way through the uterine cavity and up the Fallopian tube, the ovum was being passed from the ovarian follicle to the uterine cavity, and that fecundation might occur in any part of this course; and that the impregnated ovum might develop (1) normally in the uterine cavity, or (2) abnormally, becoming arrested on the portion of canal where the tube passes through the uterine wall, the so-called *tubo-uterine* or interstitial pregnancy, or in the tube “tubal pregnancy,” or in the ovary “ovarian pregnancy,” or

in the abdominal cavity itself, "abdominal gestation." The tubal variety is undoubtedly the most common; indeed, it is considered that all ectopic gestations are primarily tubal, or tubo-uterine, and that the ovarian and abdominal varieties are very rare, if they ever occur.

Pathology.—Tubal gestation. Apparently the ovum may be impregnated and arrested in any part of the tube. The subsequent events depend to a certain extent on its situation. If situated near the abdominal ostium, rupture is often delayed, or "tubal abortion" may occur. If the ovum is left near the uterine end or "interstitially" rupture occurs early as a rule, though the uterine tissue in some cases forming the sac may hypertrophy and expand and rupture be delayed, or tubal abortion may occur into the cavity of uterus, and the ovum be thence expelled. If situated in the ampulla, rupture is early and certain, and may occur upwards into the peritoneum, or downwards into the broad ligament. The tube not consisting of developing muscular tissue as in the uterus, cannot adapt itself to the developing ovum, and the time comes when getting thinner it can expand no longer, and finally, aided probably by peristalsis of the tube, it ruptures. This occurs about the seventh week, though it may be deferred as above stated, or gestation after rupture may continue to any month or to term; it is possibly more than a coincidence that rupture usually occurs at a menstrual epoch. Primary rupture may occur upwards into the peritoneal cavity, in which case the symptoms are severe, the hæmorrhage great, and the patient suffers from speedy collapse; or downwards between the layers of the broad ligament, in which case the primary symptoms may pass off or be followed later by fresh hæmorrhage, or finally by "secondary rupture" of the broad ligament sac, into the peritoneal cavity. Should the patient survive, either pelvic hæmatocele occurs, or the blood becomes encysted in the broad ligament; or should gestation proceed after the fœtus has escaped into the abdominal cavity, the peritonæum becomes inflamed and thickened, adhesions occur between

neighbouring parts, lymph is poured out and a new sac, more or less complete, surrounds the foetal membranes; or the fœtus may be enclosed in no sac, though still attached by its cord to the original tubal sac, to which the placenta has primarily formed its attachments. It has been stated that in some cases the tube does not rupture, but its contents are expelled into the abdominal cavity, thus giving rise to "tubal abortion" and "abdominal gestation," but "tubal abortion," in this way, has been denied as impossible. It is reasonable, however, to suppose that if arrest of the ovum has taken place near the abdominal ostium, peristalsis of the tube might extrude it. The specimen (fig. 1) seems to bear on

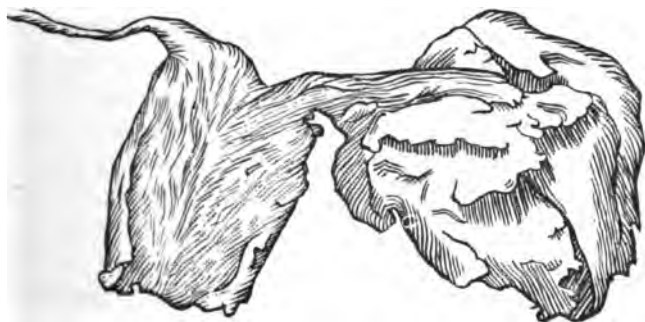


FIG. 1.

Tubal apoplectic ovum with uterine and tubal decidual casts; one cast is broad, corresponding to dilated tube.

this point. Here an apoplectic tubal ovum and cast has been passed into the uterine cavity and thence expelled, and if the uterine rigid end of the tube is sufficiently capable of this tubal abortion, it is reasonable to suppose it could occur in the other less rigid abdominal ostium. So far as can be seen in the specimens of early tubal gestation, from the seventh to the eighth week, which I have examined, the abdominal ostium is not closed, and the fimbriæ, though united by some peritonic adhesions, are not completely closed, which is quite different to the sealed end of a hydro-

or hæmato-salpinx, where all trace of fimbriæ and ostium is lost.

It is, however, held by some that in later stages all traces of fimbriæ are lost and the end sealed. It is possible closure may be dependent on salpingitis or perimetritis, according to the nearness of rupture or gestation to the abdominal ostium, In support of this I have been at some considerable trouble in going over the specimens of ectopic gestation in the museums of the Royal College of Surgeons and University College, and it appears to me that where the gestation sac involves or is near the abdominal ostium, the ostium is closed and fimbriæ lost.

In a specimen of Dr. Schacht's, recently shown by Dr. Eden at the Obstetrical Society, the end of the tube was perfectly sealed in an unruptured hæmato-salpinx ; which, on microscopic examination showed chorionic villi, diagnostic of gestation ; this closure of the abdominal ostium was probably due to the stimulus of gestation. In specimen, fig. 2 A (see also 4 A) the Fallopian tube is distended with blood clot, but there is no evidence of escaping blood through the abdominal ostium, though whether blood was escaping through it in the recent condition I cannot say. In the notes of a case in the Chelsea Hospital for Women, under the late Dr. Edis, I find, however, that at the time of operation blood was noticed to be escaping from the abdominal ostium, rupture having occurred about the middle of the tube. From mechanical reasons rupture is more likely than tubal abortion. more especially if the ovum is arrested in the ampulla. Should the ovum be arrested in that portion of the tube which passes through the uterine wall, the so-called "interstitial" or "tubo-uterine" gestation results. When the foetus has escaped into the abdominal cavity, the so-called "abdominal pregnancy" results ; but in a case which was lately related by Mr. Lawson Tait at the London Obstetrical Society, it was evident that though the foetus still retained its amniotic covering, it was originally a tubal pregnancy which had ruptured, and it seems probable, as Mr. Lawson Tait believes, that all abdominal

pregnancies are primarily tubal. Gestation occurring in the ovary itself or ovarian pregnancy is equally doubted, but it is difficult to understand cases that have been brought forward, one especially, by Mr. Howard Barrett,¹ recently related to the Gynæcological Society, in which "on opening the abdomen the first thing observable was an enormous clot covering the whole central region. All available spaces in the pelvis were full of clot and serum, and the blood effused was estimated at not less than three or four pints. On removing the central superficial clot a large mass was exposed, which, while *in situ*, greatly resembled the fundus of the gravid uterus. It occupied a very nearly central position, being situated rather more—but not much—to the right side of the body than to the left. Its upper margin passed the level of the umbilicus, and the transverse colon lay along and above it. On raising it for the purpose of removal, its long axis was found to be horizontal, and not vertical. It measured nearly ten inches in length, and six in breadth, and was ovoid in form. Its appearance was suggestive of a dense fibrous cyst. The uterus was found beneath it—assuming the upright position of the body—rather flattened, and not bicornuate or otherwise noticeably abnormal.

"The cyst appeared to be connected with the right side of the uterus by a band—presumably the thickened and altered layers of the broad ligament—and in the course of development it seems to have first risen vertically at the full tether of this band and then subsequently to have turned over, having described a semicircle, to lie superincumbent on the uterus.

"The uterus was scarcely more than of the normal unimpregnated size, but the cervical portion was rather hypertrophied; it contained a degenerated decidua, and some gelatinous matter. The right Fallopian tube was atrophied but perfectly distinguished, and lying behind and beneath the cyst. *The right ovary could nowhere be found*; the left ovary was rather softened and shrivelled.

¹ BRITISH GYNÆCOLOGICAL JOURNAL, vol. vii., p. 369.

"On removing the cyst, a patch of ragged ulceration was observed on what, had it been in normal position, would have been its right or distal end, but which, *in situ*, was on the observer's right. It was not actually perforated, but when the cyst was opened, it proved at that point so thin that the finger was easily visible through what remained of the cyst wall. On freely incising the cyst there was a gush of liquor amnii, and a well-formed and perfect male foetus of between four and five months was exposed to view. It was not decomposed, nor was there any evidence of long prior disease.

"Strange to relate, no true placenta in the ordinary acceptance of the term was there, but the interior cyst wall showed three or four large patches of purple and apparently placental tissue with sharply defined margins. Two had slight vascular connection with one another, whilst the others were quite isolated. One patch was situated at the extremity of the cyst where the ulceration had commenced, and the hæmorrhage had proceeded from the laying open of its vessels. It was not with this patch that the cord was connected, but with a large one in the centre of the long axis of the cyst. These patches were not appreciably raised above the surface, but the structure dipped down deeply into the cyst wall. The exact thickness of the cyst wall cannot be given, but it might be approximately rather under one-eighth of an inch, dense and fibrous in structure, and of more or less uniform thickness, except at the ulcerating end, where it was generally thinner. Its outer covering was peritoneal. It had contracted no adhesions at all. Mr. Barrett concluded at the time, and saw no reason to alter his opinion, that rare as are the cases of ovarian gestation, this must have been one of them."

The presence of a tubal decidua is denied, but the specimen (fig. 1) shows clearly a tubal cast in continuation with the uterine cast. It is seen that one Fallopian cast is broader than the other, and corresponds to the dilated tube or utero-tube occupied by the apoplectic ovum. Even granting this gestation took place in a unicorn uterus, the other

tubal cast shows the other normal tubal lumen. This leads to the interesting question whether in all pregnancies, normal or tubal, tubal deciduæ are present. Possibly their presence has been overlooked from early disorganisation, or lost in blood clot. In normal menstruation blood is poured out from the uterine mucous membrane. In the microscopic examination of normal tubes about the time of a period blood is found extravasated into the mucous membrane, and free in the lumen of the tube.

In an abdominal section, at the Chelsea Hospital for Women, coincident with menstruation the tubes were found injected and full of blood. It is reasonable to assume that, if uterine menstruation is arrested in normal gestation coincident with a uterine decidua, a tubal decidua is coincident with arrest of tubal menstruation or gestation. If no tubal decidua is present, what becomes of tubal menstrual blood? It is more reasonable to assume that a tubal decidua vera forms, but rarely can a unique specimen, as in fig. 1, be obtained. No tubal decidua, reflexa, or serotina has been demonstrated.

Placenta.—This is considered in tubal pregnancy to have an elementary construction, and to differ from the uterine organ in the less intermingling of foetal and maternal tissue, and by the absence of intervillous spaces. Dr. Mendes de Leon¹ has demonstrated the intervillous blood spaces in a case that came under his observation. He considers that "so long as the first stadium of normal human placentation is enveloped in obscurity, it seems premature to draw up a scheme of abnormal tubal placenta formation. The supposed rudimentary condition of the tissues connecting mother and child in tubal pregnancy is difficult to reconcile with the fact that a foetus can be developed to term though it may be puny and ill-developed.

"The latest researches concerning placentation in the lower order of mammalia have brought to light that in this

¹ BRITISH GYNÆCOLOGICAL JOURNAL, vol. vii., p. 374.

process foetal tissues play a much more important part than has hitherto been suspected; so much so, indeed, that the placenta has been recognised to be chiefly a product of the outer epiblastic layer. Although in man the same has not yet been established as a certainty, there is every reason to believe in a similar course of development. If this proves to be so, it will be easily understood why the placenta may develop sufficiently to fulfil its functions, not only in the tubal mucous membrane, presenting numerous points of similarity with the normal place of attachment, but also in the peritoneal cavity invested by a serous membrane. Evidently where the placenta is principally formed by the ovum itself the area of adhesion has but to fulfil one chief condition, namely, act as conductor for the maternal in exchange for the foetal blood.

"In our case, the tube wall, acting as place of adhesion for the placenta, showed total want of epithelial investment, as might be surmised from *a priori* analogical alterations undergone by the uterine mucous membrane after implantation of the fertilised ovum. Above, over the structure, the walls had undergone important alterations. The layer of smooth muscles was clearly visible in the neighbourhood of the cut end of the tube; further off the muscle fibres were much fewer and atrophied in appearance, to become ultimately barely indicated by quill-shaped cells with elongated nuclei for the most part in a state of granular degeneration. The wall was chiefly composed of undulated, fibrous connective tissue and a few blood vessels. Here and there accumulations of brown grains, most likely the remains of hæmorrhage. The tubal wall was thinned in several places where the placenta had attached itself, particularly where the 'Haftzotten' of the placenta foetalis had nearly penetrated to the outer periphery of the wall."

The presence of glands in the tubal mucous membrane, as interpreted by Bland Sutton and others, favours the same structural view of the placenta as in the normal organ. The placenta may be of two forms, thin and broad or thick

and rounded, and it may be situate above or below the fœtus. The possibility of its growth after the death of the fœtus has been founded on the fact of its relative large size to that of the fœtus, but against this is the view that nothing is known of the limits of growth of the extra-uterine placenta during life of the fœtus, and secondly, as demonstrated by Dr. Berry Hart, the large placenta found after the death of the fœtus is composed essentially of connective tissue, the villi being broken up, and blood crystals from blood effusion, so that the size is probably due to inflammatory changes, and not to true growth. Any true growth of the placenta on the peritoneum has not been demonstrated, though the peritoneum may form the outer wall of a connective tissue sac. The appearance of the placenta differs according to the time of operation after the death of the fœtus, and may be like ordinary placenta, or compressed and tough, or fleshy like blood clot, or soft and putrid, but nothing is known of the time required for any changes or diminution in its blood supply, though it is presumable that the longer after the death of fœtus the more advanced will be the changes.

In the examination of a ruptured tube filled with blood clot, the presence of chorionic villi is diagnostic of gestation, though in later stages a true amniotic cavity may be demonstrated. It is not easy to detect chorionic villi, but their presence differentiates a gestation sac from a simple hæmato-salpinx.

Hæmatocele.—In relation with this subject hæmatocele must be mentioned. It appears clear that rupture of an extra-uterine gestation sac is one of the chief causes of this condition.

We have seen that in the usual cases of rupture, blood is effused either freely into Douglas' pouch, or primarily between the layers of the broad ligament. On these points I cannot do better than refer readers to Mr. John W. Taylor's work on "Intra-peritoneal Hæmatocele," *BRITISH GYNÆCOLOGICAL JOURNAL*, August, 1894, p. 175. It is reasonable to assume that rupture may take place very early, or possibly only to a

small extent with discharge of blood into the uterus or abdominal cavity. Apparently, these are those cases of hæmatocele which happily recover without pathological demonstration. In a case brought forward by Mr. J. W. Taylor, he demonstrated that rupture had occurred in the same tube twice, a cicatrix showing where rupture with symptoms of hæmatocele had occurred three years before the operation carried out for rupture of same gestation tube. *Vide* also Dr. Bennington's case where the tube showed an artificial ostium due to rupture eighteen months previously, BRITISH GYNÆCOLOGICAL JOURNAL, xxxvi., p. 435 and xxxix.

Transmigration of Ovum.—Fig. 5 A might be interpreted in this way. The specimen consists of a ruptured gestation tube, the corresponding ovary of which is reduced to a mere cyst with little or no ovarian structure left. Either it required an extremely small amount of ovarian tissue to produce an ovum capable of fertilisation, or this tube became gravid, the ovum being from the opposite side. The first explanation seems the probable one; at the same time it must be borne in mind that the ordinary woodcuts of the normal position of tubes are inaccurate and that the tubal abdominal ostia are much nearer to each other behind the uterus than text books affirm, or may become so from displacement of the uterus, or adhesions, and it is not without the bounds of possibility that the ovum of an ovary may be passed by the tube of the other, though it does not seem reasonable to assume that an ovum can be carried across the uterine cavity and enter the uterine ostium of the opposite side.

Symptoms.—The symptoms with rupture, in the *first few weeks*, may be summed up as follows:—

(1) A woman in full health is attacked with pain, or there may be paroxysms of pain, mistaken for colic; the pain is localised at first to either inguinal region or lower abdomen. Later it may be more general or umbilical. In the intervals there may be apparently little amiss with the patient, and she may be going about as usual. (2) There may be collapse from pain, or the usual signs of concealed hæmorrhage may

be present, with blanching and fainting. (3) The usual signs of pregnancy are ill defined or absent. (4) A history of sterility or abortions, or the patient may be newly married. (5) Menstruation missed. (6) In some cases no period has been missed or menstruation has been masked by irregular hæmorrhage from the uterus, which it is important not to mistake for menstruation. In some cases there has been no hæmorrhage at all. (7) Uterus enlarged, sound enters to three inches, uterus displaced to opposite side and either ante- or retroflexed. (8) Bimanual evidence of tumour behind or to side of uterus, with increased breadth of vaginal wall and tenderness to touch of vaginal roof. *Ballotement* may be present. (9) Fulness in Douglas' pouch from coloured fluid or blood as may be seen on operation. (10) Pulsating vessels over tumour felt per vaginam and rectum. Obviously these may not be felt in cases of much general collapse. (11) Passing of decidual casts or shreds without progressive dilatation of cervix. The passing of a decidua apart from tubal gestation must be borne in mind. (12) Retention of urine may be present.

Should the patient survive and the foetus pass into the peritoneal cavity, and continue to develop there, though the placenta be still tubal, the symptoms are then those of an abdominal tumour, with the general signs of pregnancy. The foetus at some stage up to term, or after term dies, the amniotic fluid and cord disappearing, and either the foetus remains fresh for a length of time, or mummification or the so-called "lithopædion" occurs, in which case quiescent negative symptoms are present, or associated with those are pressure symptoms of an abdominal tumour; or the foetus may be converted into a mass of adipocere with loose bones; or putrefaction and suppuration may occur, setting up local peritonitis or a general septicæmic condition, the abscess cavity eventually communicating with the bowel, vagina, vermiform appendix, or may pass through the abdominal parietes with discharges of foetal structures and putrid *débris*. Why a foetus in one case should remain fresh or be converted

into a lithopædion, or decomposition set in, is not known. Sepsis may occur from a gangrenous coil of intestine, or air may be admitted either per uterus or bowel perforation and thus determine putrefactive changes.

The following are clinical notes of five cases of tubal gestation in early weeks occurring in the practice of Dr. Cleghorn, New Zealand. The illustrated specimens, through the kindness of Dr. Fancourt Barnes, were examined and reported on by myself for the British Gynæcological Society; *vide* Journal, vol. viii., p. 193, May, 1892.

The first case was considered hopeless when first seen, Dr. Cleghorn's clinical notes of which are as follows:—

Case I.—"Mrs. G., aged 30, married ten years, five children, youngest 12 months old, still suckling; two miscarriages before birth of last child. Menstruation began at 14, and has been normal. Menstruated seven weeks ago, the only time since birth of child. For the last three weeks the milk has been going off, and the child could only be induced to suck with difficulty. She had two hearty meals in the evening, and soon after getting up the following morning she was seized with a dreadful pain in the lower part of the abdomen, obliging her to return to bed.

She was seen and treated by an unqualified man. In the afternoon she had a return of the pain, brought up a little bile, and the pain continued during the night. On March 17, the day after first symptom, I was sent for to see her, at her home ten miles out, as she was unable to pass water, which she had had difficulty in doing since the commencement of the pain. On arrival, at 8 a.m., I found her blanched, pulseless, and apparently moribund, complaining of pain over abdomen, and especially in left inguinal region. On vaginal examination the os was open and central, and hæmorrhage, which had begun the day before, with the pain, was bright and free. No clots or shreds had been passed. There was a small, smooth swelling in Douglas' pouch, with great tenderness, and a vessel could be felt pulsating in the position of the left Fallopian tube, but the abdominal walls were too rigid

for accurate limitation, nor could the fundus uteri be found. The urine was drawn off, and morphia given hypodermically. The diagnosis of ruptured ectopic gestation was made, but situated as I was, without necessary appliances, and so far from assistance, and with the patient apparently moribund, I considered any attempt at operation hopeless.

"As it was, she lingered on for five days, during which for a few hours on the second day a very small, quick pulse could be felt. This, however, was the only symptom of rallying, and she gradually sank. Morphia and the catheter had to be used throughout. No *post-mortem* was allowed."

Case II.—"Mrs. M., aged 30, married eight and a-half years; two children, 7½ and 5 years old. No miscarriages. Menstruation began at 13½, and had been normal. Was unwell thirty days ago. She thought she might be pregnant, as she felt the same as during the first month of her previous pregnancies, till an attack of severe pain, with commencing menstrual discharge, which necessitated sending for medical advice. Four days later a second attack of pain occurred, and continued at intervals to the fifteenth day. The pain was referred to the inguinal region. On the evening of the first day the uterine cast (fig. 2 B) was passed, after which she was seen for the first time, and then appeared easy. On the fourth day she was blanched and pulseless, but ready shortly to resume her household duties. On vaginal examination the blood discharge was profuse and dark, the os open and central, but the uterus was very tender to touch, and remained so to the fifteenth day. The fundus uteri could be felt just above the pubes, anteflexed, and tilted to the right, while the sound passed three inches. A tumour could be felt in the position of the left tube about the size of a walnut, and tender. This enlargement increased daily, and the left roof of vagina appeared wider. A large vessel, and several smaller, could be detected pulsating in lower border of broad ligament, and over the swelling. No *ballotement* made out. *Per rectum* the physical signs were the same, except that the pulsation was less distinct, and the tumour felt smoother and rather larger.

"The diagnosis of tubal gestation seemed clear fifteen days after the first attack of pain, though it had been suspected four days earlier, but in the face of no missed period, perimetritis seemed more likely.

"After consultation with my colleagues, in which we all agreed as to the diagnosis, the negative pole of an ordinary Maw's bichromate battery was placed in apposition with the



FIG. 2 A.

Fallopian gestation tube distended with blood clot. "Primary rupture" downwards into broad ligament, with "secondary rupture" of same.

vaginal swelling, and the positive on the abdominal wall over it. The current was now passed for fifteen minutes, and she slept well for the first time for three days without morphia, and the size of the tumour seemed less. This was repeated with considerable success for four days, when all the symptoms of pain, hæmorrhage, increasing tumour, determined me that abdominal section was the only resource; so twenty-four days after the first symptom, I opened the abdomen by an incision three inches in length. The peritoneum was much

injected and inflamed. I immediately pierced the left broad ligament with a blunt pointed needle, and ligatured it with a double locked ligature. The swelling was then separated from its adhesions. A ligature was passed round the broad ligament on the uterine side of the double ligature, and the tumour removed (*vide* fig. 2 A). A little bright blood welled up from the bed of the tumour, which at that point had been adherent to the sigmoid flexure. This adhesion was ligatured and removed. A handful of blood clot was removed from Douglas' pouch, the peritoneum



FIG. 2 B.
Uterine decidual cast.

washed out with a large quantity of hot water, Keith's drainage tube inserted, and wound closed in the usual way. The tube was emptied in two hours, and again every four hours, the fluid being dark blood-coloured serum, which continued to the end. The temperature, after being 97° after operation, soon rose to 100° and 101° , varying for three days, when she gradually sank. No *post-mortem* was allowed."

The specimen removed (fig. 2. A and B) consists of the left Fallopian tube distended to about an inch diameter. Below and behind it is a cavity in process of being built in by lymph and organising blood clot. A complete decidual cast of the uterus is preserved. On longitudinal section of the

tube it is filled with blood clot. Microscopically, no traces of foetal structure or chorionic villi are seen, but taking it into consideration with the complete decidual cast, which shows true decidual cells and open glands, there can be no doubt this is a case of tubal gestation of seven weeks. The actual point of rupture is not made out.

Case III.—"Mrs. B., aged 39, married at 19; three children, ages 19, 17 and 15 years; no miscarriages, menstruation normal. Helps her husband on a small farm forty miles away, and is an intelligent, unaffected, cheerful woman.

"*March 29, 1891.*—First consulted Dr. Cleghorn for pain in right inguinal region, extending from there to the back of the hip, from which she had been suffering for six weeks. She had some similar pain two years ago. After excluding other than pelvic trouble, and being unable to satisfactorily make out her condition without an anæsthetic, I administered chloroform, and made a vaginal examination. The uterus was anteflexed, sound passed two and a-half inches. The roof of vagina was wider on right side than left. The right ovary was size of a bantam's egg, left ovary normal, and a thickening could be made out in each broad ligament in the position of the Fallopian tubes. She was ordered small doses of magnes. sulph., opium liniments, and told to return in two months.

"*June 18.*—Returned with pain much worse, and with the following account. Five days after the last visit menstruation commenced, and lasted three days. Then a severe pain in right inguinal region, lasting eighteen hours, came on, causing her to faint. This kept her in bed a fortnight, as any attempt to rise made her faint. During this time there was a yellow discharge, and pieces something like skin came away. At her next expected period, April 30, she had very severe pain but no flow, and fainted away. The pain referred to right inguinal region kept her in bed four days. At next expected period, May 28, a few dark pieces—decidua?—passed with blood, and lasted two days. On examination the body of uterus was found pushed over to

left side, os open, cervix enlarged and pointing backwards. Uterus anteflexed, fundus felt just over pubes in left inguinal region. Sound passed three inches. A smooth ovoid swelling of the size of a lemon was felt in the right broad ligament above and behind the cervix, this was somewhat tender on pressure. In front and below this and between it and the pubic arch the ovary could be felt a little larger than formerly. A vessel, the size of the radial, could be felt pulsating in the

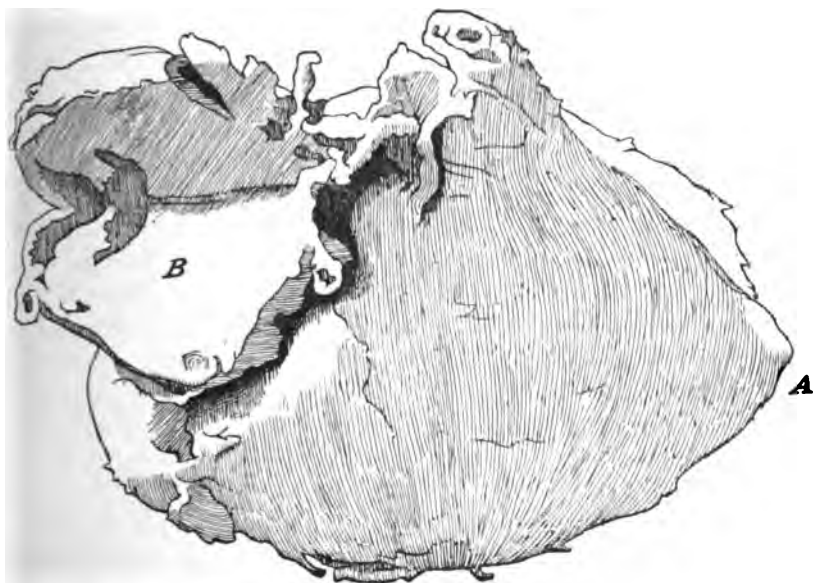


FIG. 3.

(A) Blood tumour caused by primary rupture of gestation tube into ligament, remains of which tube appear. (B) Bisected ovary.

lower border of the broad ligament, and smaller vessels could be made out over the surface of the swelling. There was a marked groove between the swelling and the uterus. *Bal-lottement* could not be detected. *Per rectum* the same condition could be recognised. Patient stated sexual intercourse occurred on March 28 and May 23 only. The abdomen was opened and the right broad ligament ligatured, then separat-

ing the dilated part of the Fallopian tube, which was adherent to the surrounding structures, these and the ovary were brought out of the abdomen and removed. On the posterior and lower portion of the swelling the finger came on a weakened spot, but it was removed whole. There was a good deal of oozing from the cavity in which the swelling was embedded, but this was washed out with a large quantity of hot water, and a Keith's tube inserted and abdominal incision closed. The quantity of dark coloured serum removed from the tube was small. The tube was removed on the fourth day, and the convalescence was uninterrupted, the temperature only once going up to 100°. The menstrual flow occurred on the evening of the operation, and lasted four days."

It seems probable that impregnation took place on last day of intercourse, May 23, the duration therefore would be twenty-six days from intercourse, or twenty-one from last show, May 28. The specimen bears out this view, viz., fifty-six days, or eight weeks from May 28 to July 23, date of operation. This specimen consists fig. (3. A) of a longitudinally bisected oval blood cyst, about the size of a large lemon, with remains of tube and ovary (B). Microscopic sections show at line of junction of tube indistinct chorionic villi, and there can be no doubt of its being a case of tubal gestation of eight weeks with primary rupture into the broad ligament. The ovary contains a large corpus luteum.

Case IV.—"Mrs. D., 27; married at 16, one child aged 10; five miscarriages, all at less than two months, but only blood clots came away. No membranes or anything like a foetus had come away. Menstruation regular since 13, accompanied by a little pain usually before the flow.

"*August 29, 1891.*—Came fifteen miles up country to consult Dr. Cleghorn for a pain across lower part of abdomen, amounting to paroxysms, from which she had been suffering for three weeks. Menstrual flow came on twelve days ago, plentiful and bright. No shreds or clots. Breasts ache slightly. Cervix uteri enlarged, and pointing to the left; os circular, uterus enlarged and towards the left. Tender

spot towards the right of uterus in broad ligament, and vessel could be felt pulsating, also one of smaller size in uterus. Abdominal walls too rigid to allow of examination without an anæsthetic. This condition of local tenderness, pulsating vessels, and rigid abdominal walls was identical with Cases I. and II.

"*August 30.*—Under chloroform, at tender spot, bimanually a distinct globular swelling, the size of a walnut, could be made out, and over it small, pulsating vessels, and one large vessel could be felt pulsating in lower border of right broad ligament. The left ovary was apparently normal, but the right was not defined. Sound passed three inches.

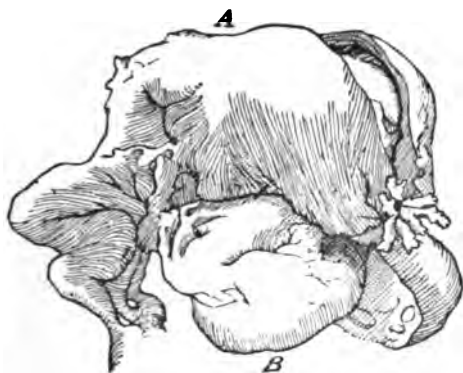


FIG. 4.

(A) Unruptured tubal gestation cut open longitudinally. Fimbriae well seen and ostium not sealed. (B) Ovary cut open.

"*September 3.*—During the night pain, with gushes of blood occurred. Examination showed tenderness in Douglas' pouch, and indistinct fluctuation. It was decided to operate and not to apply faradism; and at 4 p.m. the abdomen was opened by a small two and a-half inch incision. Some dark-coloured fluid escaped, but no clots. The peritoneum was injected and omentum adherent at upper part of incision, but of old duration. The right broad ligament was ligatured at once, and the right tube and ovary removed.

The dilatation of the tube commenced half inch from the uterus, and contained a small, solid body which was movable in tube. The right ovary was situated just below this, and the two together formed the swelling bimanually felt on examination. It was considered advisable to remove the left ovary and tube also. Keith's drainage tube was placed in Douglas' pouch, and the abdominal incision sewn up. Patient made an uninterrupted recovery."

This is a specimen of unruptured tubal gestation of seven weeks (fig. 4.) The distal end of tube A is dilated, and contains an undeveloped foetal structure. The ovary B below has a marked corpus luteum. The parts are in position as found at operation.

Case V.—"Mrs. C., aged 25, married two years; no children or miscarriages. Menstruation began at 13. Always has pain beforehand, loses a great deal, and at intervals of twenty-one days.

"*July 17, 1891.*—First seen. Had been losing a great deal and was in great pain, which became more severe and expulsive at times. On examination, the uterus was found somewhat enlarged and retroflexed. Os circular, cervix enlarged. A good deal of pulsation could be felt in the vessels of the fundus. There was also marked tenderness on the left side above cervix. She had not menstruated for three months, and had been in poor health during that time. After a dose of chloral she went to sleep for some hours, and the pain ceased till July 9, when, after a few pains, the specimens above mentioned were expelled.

"*September 6.*—Mrs. C. examined to-day under chloroform, as she has been complaining of severe pain in left inguinal region for some time. Pain very intense if she coughs or sneezes, and pressure in the inguinal region is unbearable. The uterus is small and retroflexed, os small and pointing backwards. The appendages on right side apparently normal; on left side ovary soft and twice as large as the right, and in the position of left Fallopian tube was a tense, smooth, cylindrical swelling about two inches

long, and of the diameter of an ordinary little finger. A vessel could be felt pulsating between the roof of the vagina and this swelling."

This specimen (fig. 1) consists of a complete decidual cast of uterine cavity and casts of tubes. The cast of right tube is thin and tapering, the left is broad, evidence



FIG. 5.

- (A) Gestation tube and contents, rupture in upward direction (B).
(C) Cyst of ovary complicating diagnosis.

of the dilatation of tube. Attached to it is an organising blood clot, about the size of a largish walnut. In this clot is seen an elongated bluish central body. Microscopically, the wall of this shows a layer of rounded cells, two deep, and is practically the amniotic sac. There are indistinct chorionic

villi cut transversely. There is no doubt this is a case of apoplectic ovum, probably of left tube. I would submit it occurred either in the tube or in a cornuate uterus, and spontaneously aborted into uterus. The difference in size of the tubal casts is apparent, and it is interesting to note the formation of a decidual cast in the tubes continuous with that in uterus.

Case VI.—This case (fig. 5) was under the care of the late Dr. Edis in the Chelsea Hospital for Women. It is chiefly instructive from the fatal result, as in Dr. Cleghorn's Case No. I., of the "expectant" form of treatment decided on by consultation of staff. It is easy to be wise after an event, but had exploratory incision been carried out when there was reasonable evidence of a ruptured extra-uterine gestation, or as a forlorn hope, the result could not have been worse, and might have been better. The patient's last period was Dec. 1, 1888; she complained of pain forty-five days after. The mammæ were fuller, areola dark, and follicles distinct. The pain was excruciating in inguinal region, with retention of urine. Shreds and flow lasted twenty-three days on and off. She was able to get about in intervals of pain. *Per vaginam* the uterus was large and anteflexed, and a bimanual tumour with pulsating vessels, was discovered in left tubal region. Abdominal section was performed, shortly followed by death from exhaustion.

Case VII.—The following is a case of advanced ectopic abdominal gestation, with septicæmia, admitted into the hospital under Dr. Leith Napier, August, 1891.

Mrs. L. J., aged 25, married.

History prior to admission.—Patient attended the hospital as an out-patient, under Dr. Fenton, on August 17, 1891. She then complained of great pain at the bottom of her back, with offensive motions of green "skin-like" material. She had been losing blood *per vaginam* for four days. She became rapidly much worse, and was admitted as an in-patient.

History on admission.—Patient had been married two

years and eight months. She had had no children, but said she had aborted (?) three times. She was quite well up to September, 1890, since which date she had not menstruated. She had suffered from morning sickness, swelling and tenderness of the mammæ, and had gradually increasing abdominal enlargement. In March, 1891, patient was severely frightened from her clothes taking fire; she had not since perceived fœtal movements, which were strongly felt previously. In April she had pains like labour pains, and passed a large blood clot, but there was no appearance of a fœtus or distinct membranes. The abdomen continued to enlarge up till August; recently it has become smaller. As previously mentioned, she had lost blood for four days in August, from 13th to 17th. She has had frequent offensive diarrhœa, accompanied with much pain, for over a month. She has been vomiting almost everything taken for the last three weeks.

State on admission.—Diarrhœa very severe and offensive, constant vomiting, sweating profusely but irregularly, skin cold and clammy, the breath has a sweet heavy odour; looking very ill; temperature 103° , pulse 120.

August 29.—Examined; on palpation, abdomen occupied by a centrally situated tense swelling, reaching nearly to umbilicus, which is displaced upward. *Per vaginam*, the cervix feels soft; the pelvis is occupied by a very hard large swelling dipping into Douglas' pouch, and rising well up into the abdomen. The body of the uterus lies in front of the large swelling; the sound enters easily fully two and three-quarter inches, concavity forwards. Temperature 102.8° , pulse 120, very feeble and irregular. The patient looked most gravely ill. Septic peritonitis from a degenerated ectopic gestation was diagnosed. Free stimulation with brandy, champagne, &c., was ordered, and bismuth, previously prescribed, continued, with the addition of sedatives.

August 30.—Temperature 101.8° ; pulse 110-116, steadier. There had been no sickness, and she looked slightly better

August 31.—Before operation temperature was 103.2°, pulse 138.

Operation.—An incision was made in the middle line about five inches in length. On reaching the abdominal cavity a large tense cyst was discovered. Superficially and to the left side, there was a thick tense adhesion binding down the cyst. This band was believed to be a portion of the left broad ligament. It was tied and divided. The gestation sac was firmly adherent on both sides and to the abdominal peritoneum anteriorly. Posteriorly it was closely adherent to the rectum and lower bowel. The anterior and lateral adhesions were partially separated from the cyst. The cyst wall was extremely soft and friable. On opening the gestation sac a considerable quantity of very foul-smelling pus and gas was liberated. A macerated, very badly smelling foetus of seven to eight months' development was then extracted. Thereafter a mass of decomposed placental tissue was removed, which had the appearance of rotten chamois leather, and was very soft and most offensive. The cyst was washed out with perchloride of mercury solution, and then dried with perchloride sponges. The edges of the opening in the cyst were stitched to the abdominal wall by several silk sutures. The abdomen was washed out with boric acid solution. A glass drainage tube was passed into the cyst and packed round with carbolic gauze. The upper part of the abdominal wound was closed with silkworm gut sutures. On completing the operation the cyst seemed shut off from the abdominal cavity. From the very distinct faecal odour in the cyst it was clearly manifest that there was a communication with the bowel.

Patient made an ultimate excellent recovery.

Description of Specimen.—The foetus is a female between seventh and eighth month. Weight 3 lbs; length sixteen and a-half inches; open vulva, exposing clitoris. Nails, allowing for shrinkage, do not reach the tops of the fingers or toes. Umbilicus one and a-half inches from pubis, two and a-half from ensiform—not centred as at term. Hair is present in places, lost on scalp, probably from maceration, which is everywhere advanced.

The records of the hospital, in addition to the two cases already mentioned, furnish nine other cases: two operated on in the early weeks, and which proved fatal from shock or hæmorrhage shortly afterwards; two successfully diagnosed and operated on by Dr. Travers in early stage; two diagnosed and successfully operated on by Dr. Schacht; and one under Dr. Leith Napier, in which there was a large blood cyst in the broad ligament (which I had not an opportunity of examining); one under Dr. Fancourt Barnes, which is instructive in showing a fatal issue from placental hæmorrhage in an advanced abdominal gestation, the notes of which are as follows:

"The patient, Mrs. B., aged 35, admitted April 8, 1890; married fifteen years; one child, aged 14. Regular to July 15, 1889. One period missed at the time menstruation should have occurred. The eighth week she was seized with acute pain on lower abdomen, which made her sick and faint. This condition lasted fourteen days. Breasts tender and nodular. After this attack she was apparently in good health, but a week later was again seized with pain. She thought she was pregnant. On admission the diagnosis of ectopic gestation was made and operation decided on, as she was suffering probably from septic peritonitis. Movements had certainly been felt by the patient two months before. On April 5 blood and fleshy pieces had been passed *per vaginam*. On section, the edges of the placenta came into view. The cord was tied and child removed. It had apparently been dead some time. Free hæmorrhage in attempting to remove placenta, and after a portion had been removed the base of attachment was tied and brought outside abdominal incision, which was sutured in usual way. On second day she suddenly felt as if something had given internally and she rapidly sank.

"The *post-mortem* showed abdominal cavity full of blood, the placenta site was the right broad ligament. The left ovary was cystic, about the size of foetal head. The anterior wall of original sac was not made out, but the posterior was

firmly attached to lumbar vertebra. The peritoneum was thick and inflamed."

The ninth case was recorded (*vide* vol. xxxv. of the *Transactions of the Obstetrical Society*) by Dr. Maclean, late Resident Medical Officer, which is interesting from the fact that abdominal section had been performed, but the condition unrecognised. The notes are as follows:—

In 1891, a married woman, aged 30, history of eight years' sterility, was admitted into the Chelsea Hospital for Women with pelvic trouble and tumour, under the late Dr. Edis. Abdominal section was performed, when a tumour was seen deeply embedded in the pelvis, and apparently attached to sacrum. Microscopic fragments examined by myself showed only blood clot, but it was considered clinically to be probably of a sarcomatous nature, and further interference inadvisable. "Though the physical signs of copious blood effusion were then present, she rallied and made a partial recovery. She remained, however, in a very indifferent state of health; progressive emaciation and asthenia, with finally some symptoms of sapræmia, terminated in death in January, 1893.

"Three weeks before death much pus and mucus with a pair each of tibiæ and fibulæ, a left ilium, a left ulna, and fragments of squamous skull-bones of the foetal skeleton at about the fifth month were passed *per rectum*. At the *post-mortem* examination, whilst no signs of general peritonitis existed, evidences of left tubo-ovarian pregnancy with rupture of the gestation sac intra-peritoneally into the pouch of Douglas appeared distinct. There had doubtless been subsequent foetal development in the pouch, the roof of the secondary sac being formed by matted intestine and adventitious inflammatory material. This sac contained fæces and decomposing foetal remains, the connection with the bowel being through a large sloughed perforation of the rectal wall in the floor of the pouch."

Diagnosis.—Pain of a paroxysmal nature, with irregular uterine hæmorrhage, about seven weeks from a last period, will lead the patient to seek advice. The usual early

symptoms of pregnancy may be absent. Normal abortion, perimetritis or ovaritis may be suspected, or a retroflexed uterus, cystic disease of ovary or dilated tube with amenorrhœa exist, but the passage of decidual casts or shreds, obviously not clots, without progressive dilatation of the os, should as a rule differentiate from these conditions. The history of tumour is also important, and on bimanual examination an extra-uterine tumour advancing rapidly in size, with pulsating vessels, can be mistaken for nothing else. I would here emphasise the importance of Dr. Cleghorn's accurate clinical notes, which are, as far as I know, the first observation respecting pulsating vessels, in these cases.

Later, when the foetus has escaped into the peritoneal cavity, the diagnosis resolves itself into a differentiation from other abdominal tumours, including normal pregnancy. Here foetal movements or contour may be made out, or peritonitis or septicæmia be present.

In one case of a woman admitted to the Chelsea Hospital for Women in 1891, in a dying condition, abdominal gestation was suspected, but the *post-mortem* showed large hard sarcomatous condition of both ovaries, with a large cyst attached to one of them. This specimen I showed at the Obstetrical Society, in 1892.

It is interesting to note the presence of ovarian cystic disease in association with ectopic gestation, *e.g.*, the late Dr. Edis' case, and also in Dr. Fancourt Barnes', one on the same side, the other on opposite. Also in a specimen of Mr. Spanton's, reported on by me at the British Gynæcological Society, a primary rupture had occurred into an ovarian cyst.

In light of Mr. John H. Taylor's paper on "Intra-peritoneal Hæmatocoele," these true ovarian cysts must be differentiated from the false tubo-ovarian blood cysts as described and met with by him, and which possibly may be an explanation of those cases of so-called ovarian gestation, *re* Mr. Howard Barrett, where, owing to a false tubo-ovarian blood cyst, the ovary itself is involved in false cyst wall, or has disappeared.

The possibility of associated extra-uterine and intra-uterine twin pregnancy should be borne in mind as well as those rare cases of gestation occurring simultaneously in both tubes. It has been deemed of little profit to consider the symptoms of ovarian or interstitial pregnancy, or tubal abortion. The clinical symptoms and treatment are the same. Initial pain and collapse in all the conditions may be so great as to prove fatal at once, and in some cases where extra-uterine gestation is suspected, exploratory incision can alone decide the seat of lesion, while in others, as we have seen, pathologists are by no means unanimous.

Causes.—The causes of extra-uterine gestation are speculative. It is known that it is often associated with sterility, absolute or relative, possibly caused by some obstructive condition in the tube, either from uterine polypus or fibroid, twists in the tube, or adhesions. Salpingitis, with œdema or destruction of epithelium, or loss of peristaltic action of tube may be sufficient to delay the developing ovum, until it is of such a size that mechanically it cannot be passed on its course. Some flexion of the uterus may possibly serve to distort the tube and thus be a cause, and it is interesting to observe that uterine displacement was noted in four of Dr. Cleghorn's cases, and in the late Dr. Edis' case. It was also pointed out by Dr. Whitbridge Williams of Baltimore in one case, that the gestation sac had no connection with the lumen of the tube, that gestation had occurred in an accessory duct above the true lumen. I myself have met with an accessory duct pretty frequently in the examination of numerous tubes. The presence of these ducts may possibly explain the condition in many cases. No one who is in the habit of examining tubes can fail to have been struck with the numerous folds of the mucous membrane, or those cases of chronic salpingitis, with hypertrophied walls, with lumen in places blocked with clot and epithelial debris, when the only wonder is how an ovum can ever normally be passed through at all, and that tubal gestation is not the rule rather than the exception. The presence of cystic ovarian disease with tubal gestation has

already been pointed out in many cases, causing possibly some distortion of tube, with obstruction to the passage of the ovum.

Treatment.—In these days when abdominal surgery claims such brilliant results, it seems certain that with the symptoms as described taken collectively before one, it is useless to temporise or to keep the patient under observation. In any reasonable case of extra-uterine gestation, abdominal section and exploration is the only rational procedure. It seems certain that as this condition is more and more recognised, abdominal gestation will be rarely met with, and some of those difficult questions of dealing with the placenta in abdominal gestation never arise. There is no doubt that in the early stages the operation is less complicated, when a limited sac and a limited hæmorrhage have to be dealt with. Should the tubal sac be unruptured, it can be readily removed by the usual method of transfixing and ligature. Should it be found that rupture had previously taken place into the broad ligament, the sac thus formed may be, comparatively speaking, easily removed, or if this primary rupture has again given way, all clots should be removed, and the usual methods employed which govern abdominal sections in general. The pedicle in these cases is often friable, and securing it may give rise to repeated hæmorrhage and trouble. Should rupture have taken place into the peritoneal cavity, in which case the symptoms of hæmorrhage and collapse are urgent, then abdominal section, though undertaken even as a last hope, is the only rational treatment. Delay and “expectant treatment” prove too often disastrous, and in the face of an extremely grave situation abdominal section in itself should not materially affect the issue.

At the same time it must be borne in mind that there are cases where symptoms are so slight, though the condition may be suspected, that it is reasonable to delay. Of necessity the patient should be kept closely under observation and should any symptoms of fresh hæmorrhage or pain occur, operation should be recommended. Careful and accurate

observation can alone determine the gravity of the symptoms or appreciate the increase or not of a suspected tumour. Should decidual casts be passed and the diagnosis thus intensified it seems useless to temporize. It is only those cases of slight hæmectocoele without vaginal hæmorrhage or uterine casts which can safely be relegated to the category of "expectant treatment."

On the other hand, granting the woman has survived primary rupture and the fœtus has continued to develop, cases of abdominal gestation will from time to time be met with, and the question arises at what stage should anything be attempted with most likelihood of success, for in these cases hæmorrhage from the placental site and septicæmia are the two chief difficulties to be dealt with, and are the two chief causes of death to the mother.

Here we have to deal with two stages, one when the fœtus is still living, secondly after its death.

(1) In the first place, when the fœtus is still living. The fœtus can easily be removed by abdominal section, but attempts to remove the placenta are usually met by uncontrollable hæmorrhage if it is situated in such a position that it can only be removed by a process of peeling off, but exploration alone can determine the possibility of its removal without hæmorrhage or not, and as long as the fœtus is living the danger of uncontrollable placental hæmorrhage must be borne in mind in considering the advisability of operative interference. The placental site may be so situated that it can readily be removed without hæmorrhage, or it can be transixed and treated extra-peritoneally as in Dr. Fancourt Barnes's case. With the fear, therefore, of placental hæmorrhage, we may elect to remove the child, tie the cord, and after stitching sac walls to parietes leave the placenta to separate, or disintegrate, using all aseptic aids in its extrusion, but instead of the danger of hæmorrhage, the patient now runs the extreme risk of septicæmia. It may, however, be necessary to secure a living child, but it should be remembered that the chances of an extra-uterine child sur-

living long are small, and the risks of primary operation to the mother while the foetus is living are out of proportion to the probable chance of the child surviving long.

(2) In the second place, after the death of the foetus. Here the gestation history may be very long, the foetus may have been dead for months, and mummification, calcification or no change have taken place. Here the symptoms may be only those of a quiescent abdominal mass, and if operation is undertaken the placental vessels will have been obliterated or placenta have disappeared and there will be no particular difficulties in the removal of foetal remains.

The foetus more commonly, however, is decomposed, supuration in the sac has occurred, and communication with bowel, vagina, bladder, or through the parietes may have taken place. Here the question of hæmorrhage is less and the question of septicæmia greater. In these cases there can be no question of delay, indeed symptoms which point to septic absorption, constitutional disturbance, peritonitis or suppuration, clearly indicate operative interference. Any parietal sinus must be enlarged or a median incision made. The median incision, however, by some has been deprecated and incision over the sac recommended so that the peritoneum may be avoided. In either case the macerating foetus, remains of placenta and debris should be removed, and aseptic flushing used, the sac wall, if possible, cleared of adhesions and removed, but if firmly bound down, it should be stitched to parietes and drained. In those cases where decomposition is advanced the placenta is disintegrated, or reduced to a putrid mass. In less advanced cases the placenta may be still adherent and active and have to be left as in the case of a living foetus. The longer the delay after the death of the foetus, the more reasonable is it to assume that the vessels of the placenta are obliterated and that its removal can be safely effected, but it is impossible to state when hæmorrhage is likely, or when septicæmia begins.

In the two cases operated on in the Chelsea Hospital, the gestation history was eleven months and nine months. In

both cases the foetus was presumably a seven months' one. In the first case the septicæmic condition demanding operation was successfully combated four months after the death of the foetus, with no trouble from the placenta. In the second case, two months after the death of the foetus, though decomposition was advanced, the placenta was still adherent, and its attempted removal proved fatal from hæmorrhage. In a case reported by Dr. Burford in the *Gynæcological Journal*, November, 1892, the gestation history was five and a-half months, the placenta was contained in a tubal sac, and the whole was successfully ligatured and removed, the foetus being free from the sac. It seems reasonable, therefore, to operate with greater possibility of success to the mother after the death of the foetus, and if possible to delay till three months after its presumed death, but if constitutional symptoms, or the necessity for a live foetus determine operation, then the placenta must be left and sepsis risked, unless it is clear that the placenta can be removed without hæmorrhage.

Recent research, however, has shown that primary abdominal section in advanced ectopic gestation (that is, section during the life of the foetus) has proved successful to mother and child in a considerable number of instances. So that we may require to modify our beliefs regarding the best elective operation in such cases.

Successful cases of faradism, of puncture and aspiration of the primary gestation sac *per vaginam* are on record, but such treatment, except with a view to destroy the life of the foetus, must be deemed unscientific. Removal of foetal remains through a vaginal sinus or incision can rarely be as satisfactory as per abdominal section, except possibly where the foetus has died early and the sac small and communicating freely with the vagina, allowing free drainage and flushing, even then the placenta cannot easily be reached or its site diagnosed, and we have a less complete command than by an abdominal section.

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- (3) Dr. Berry Hart, Edinburgh Obstetrical Society, xvii., 79; *Edinburgh Medical Journal*, 1889 and 1891.
- (4) J. Bland Sutton, "Surgical Diseases of the Ovaries and Fallopian Tubes."
- (5) Robert Barnes, "Diseases of Women."
- (6) A. Galabin, "Diseases of Women."
- (7) I. W. Taylor, *British Gynaecological Journal*, August, 1894.

CORRIGENDA ET ADDENDA.

Page 373.—Line 8 from top *add* "Page 307."

Line 9 " " "Second Edition, p. 339."

Line 10 for "Diseases of Women" read "Manual of
Midwifery," p. 264.

OBITUARY.

OLIVER WENDELL HOLMES, M.D., 1809-94.

A LEARNED anatomist and a literary star passed away at Boston, U.S.A., on October 7. As a writer of some of the most charming and popular works in the English language, as a delightful poet and conversationalist, as a wit and a scientist, as a professor and practitioner of medicine ; in short, as one of these rapidly becoming scarce in any land *rare-aves*—a man of true genius—the name of Oliver Wendell Holmes will probably live as long as the English language exists. We cannot here attempt to estimate his place in popular literature ; many sympathetic and powerful pens have already done so. But as Holmes belongs to medicine, and although his medical work was mainly that of a professor of anatomy and physiology, yet as he did great service to obstetric medicine, it is fitting we should now pay tribute to his memory. His essay on "Puerperal Fever a Private Pestilence," published in 1843, has been recently fully referred to in the *British Medical Journal* for October 13, 1894, and in many other English and American publications. Fifty-one years have passed, and we have not improved upon a single one of his excellent practical recommendations against the dangers of contagion. But it is not only as an acutely practical thinker that Holmes must be remembered — "forty-one years ago, Dr. Holmes worked a good deal with the microscope, and taught Dr. Cutter how to use it with direct illumination. He had an arrangement of his own—a six-inch black disc fastened to the tube and graduated so that turning the disc would act as a fine adjustment"—he was, in the best sense of the term,

a scientific physician. As a teacher and a worker, as a thinker and a reformer, his memory will remain to brighten many a weary hour, and to encourage many an ardent student.

L. N.

WILLIAM GOODELL, M.D. Philadelphia, Hon. Fell. British Gynæcological Society, &c., &c.

Dr. Goodell, one of the best known of American obstetricians, died on October 27, 1894. He graduated at the Jefferson Medical College, Philadelphia, in 1854, when 25 years of age. For a time he practised in Constantinople; he returned to America in 1861, and settled in general practice in West Chester. Nine years later, in 1870, he was chosen as Lecturer on Obstetrics and Diseases of Women, in the University of Pennsylvania, and four years later was appointed Clinical Professor of the Diseases of Women and Children in the same School. He resigned this position in 1893, when he was nominated Honorary Professor. In 1885 he was elected an Honorary Fellow of the British Gynæcological Society.

Dr. Goodell was a voluminous and powerful writer, whose opinions always carried much influence. He was a skilful operator, but latterly became a leader in conservative gynæcology, and in fact did much to restrain the over-arduous tendency of his countrymen inclined to the opposite pole. We have much regret in recording his death, which will be deeply felt in America and Europe by his numerous friends and pupils.

L. N.

REVIEWS.

PRACTICAL MANUAL OF DISEASES OF WOMEN AND UTERINE THERAPEUTICS. By H. MACNAUGHTON JONES, M.D., M.Ch., M.A.O., Fell. R.C.C. Surgeons of Ireland and Edinburgh, &c. Sixth Edition. London: Baillière, Tindall and Cox.

When any book has reached its sixth edition, especially when this has occurred within ten years, it is rarely necessary for the reading public to be told much about it. Nothing succeeds like success; and indeed, when success is attained, despite some contending circumstances, the fact is patent that it is not from lucky circumstance but from real merit that it has been reached. As we have said, a sixth edition rarely calls for much analysis; as a rule, by then the critic ceases from cavilling and the author is at rest. But in the particular volume before us, while we have actually but a sixth edition of a popular manual, we have virtually a new book. The additions and alterations, the careful revision, and the combination of all that was good in former editions, with much that is new and still better in this, make the task of reviewing not only a pleasant but a useful one.

Comparing the new edition with the third edition published in 1888, we find that the actual number of pages is increased from 534 to 745. Nor is this all; the free use of small type for various excerpted writings increases the literary contents of the volume very appreciably.

Some of the more notable improvements we will now refer to. There is much more space devoted to the description of how to examine a case, and also to the more important ana-

tomical bearings of the principal gynæcological affections; we have now 100 pages where we had formerly eighty. The "Table of Discharges" (p. 87), has been remodelled, italics used to indicate the important sites of origin, and many useful and important alterations and additions made.

The very full therapeutics in the chapter devoted to disorders of menstruation (pp. 124 to 224) is an excellent feature.

The author is not ready to accept ventro-fixation, or, as he prefers to call it, hysterorraphy, *con amore*; he thinks the operation "a grave one to advise for such ailments as malposition or prolapse of the uterus." We will not stop to discuss this, beyond saying that many prominent and highly instructed gynæcologists think otherwise. Showing, however, the catholicity of the work, we have an adequate series of descriptions of various methods of the operation, and six illustrations devoted to the subject.

A hundred pages are occupied with uterine displacements. The chapter on uterine inversion is very clear and practical. The most recent modification of Tait's flap-splitting perinæorrhaphy is described, viz., Doléris "Colpo-perineoplastie par glissement," and we are pleased to see that the value of Schröder's plastic amputation of the cervix is appreciated. But we would venture to point out that Schröder proposed this method of operation for chronic "endo-cervicitis" and metritis, not specially for prolapse, as is implied by the author.

The new books on gynæcology have been much occupied with recent researches regarding the pathology of metritis, which is now recognised as the starting-point of the most serious and important conditions of pelvic disease. The recent work by MM. Stephan Bonnet and Paul Petit ("Traité Pratique de Gynécologie," Paris, 1894), has been freely used, and a most admirable, withal terse summary of the latest known pathological observations is given. Tuberculosis of the uterus is also a new feature. We should have liked "some more," like Oliver Twist's portion; what we have only whets our appetite. The excellent researches regarding this subject recently sent us from America are not alluded to.

Appendicitis has been the theme of many a surgeon's and gynæcologist's essay during the last two or three years. We dare not venture to estimate the quarts of ink and reams of paper which have borne testimony to its subtle and at times malign influence. Swain's (of Bristol) paper in the *British Medical Journal* for March, 1894, is referred to and summarised. Two capital diagrams illustrative of the condition of adherent cæcum to old ovarian pedicle, and tubercular appendix and the suturing as required in cœliotomy are given, and an abstract of a case of Alfred Smith's related.

Chapter xxi., "Sutures and Ligatures" is excellent; it is in great measure a condensation of Pozzi's writings on the subject in his "Traité de Gynécologie," 1892, which is sufficient guarantee for its merits. We hardly like to object to anything herein contained, yet while Reverdin's needle is possibly time saving, it is difficult to keep it wholly aseptic, and therefore it is a possible source of danger.

The next chapter, on surgical treatment of uterine fibromata, is quite a new feature in the book. The methods are so numerous, that the student will thankfully accept the abbreviated classification with which the chapter is opened. There may be room for difference of opinion as to the wisdom of certain of the suggested methods of treating the pedicle in extra-peritoneal hysterectomy, *e.g.*, by chain ligature, by Bantock's or the Staffordshire knot. We doubt if either Bantock or Tait would sanction such a recommendation. For securing thin, narrow, bloodless pedicles of subserous fibromata these might be used, but then, would it not be better surgery to treat such intra-peritoneally? Again, the intra-peritoneal method of Schröder is rarely or ever now practised. The double rows of sutures have been shown to be unnecessary, and in so grave an operation anything which occupies time needlessly is to be deprecated. We also notice that in describing "total hysterectomy as practised by Bardenheuer," the use of ligatures on the broad ligaments, and securing the "stump" by an elastic ligature is mentioned. Now in what is properly recognised as total hysterectomy, it is essential to

ligature the uterine arteries and to open the vagina. First, the broad ligament opposite the appendages is secured with double ligatures on each side, one commanding the ovarian artery and its branches, the other on the tumour side preventing bleeding from the vessels in the tumour ; next, a second set of double ligatures are passed to tie off the portions of broad ligament below this, and then the uterine arteries are secured. For successful intra-peritoneal hysterectomy it seems essential to ligature the uterine arteries. Several of the most experienced English hysterectomists still prefer the extra-peritoneal method, as those whose enterprise has led them to essay the intra-peritoneal have found that without ligaturing the uterine arteries hæmorrhage is a common sequel. So that it is now accepted as one of the most important steps of intra-peritoneal hysterectomy that these vessels must be secured. The difficulty of finding the situation of the arteries has been urged as an objection ; in most cases there is no difficulty, in a few instances there may be very great difficulty from the distortion caused by irregularly growing tumours. This much seems certain, that no man should attempt to perform either intra-peritoneal or total hysterectomy unless his surgical anatomy is equal to determining the position of the uterine arteries. In a certain number of cases extra-peritoneal treatment of the pedicle will probably always be advisable. The excellent extra-peritoneal method of Bantock (p. 422) is briefly described ; it merits a fuller and clearer account of the precise details than is given. No one who has seen him operate in a difficult case can fail to realise that, if the extra-peritoneal operation can be regarded as a proceeding of election, Bantock's method leaves little room for improvement.

The author is so well up to date that we expected to find some mention made of Franklin Martin's method of treating fibroma by ligation of the uterine arteries *per vaginam*. The general conclusions regarding operations for fibroid (p. 417) are thoroughly practical and deserve careful consideration. The chapter as a whole is one which will serve its purpose

admirably. Vaginal hysterectomy is described by Mr. Bowreman Jessett, and his new broad ligament forceps (of which we give a woodcut in this number of the Journal) and his hysterectomy needles, which we have had the personal advantage of using, are figured. At page 455 the sacral method of hysterectomy is attributed to Zuckerklandl and Wölfler. We believe that either Hochenegg, or Hegar of Freiburg, as related by his first assistant Weidow, first introduced the method, having adopted it from the Freiburg surgical professor, Kraske, who by this route extirpated the cancerous rectum.

Chapter XXV., Affections of the Fallopian Tubes, is very full and enriched by several excellent illustrations of the normal and diseased miscroscopy. "The important practical bearing of our knowledge of the causation and course of a pyo-salpinx is to enforce these lessons: (a) pyo-salpinx is frequently found in both tubes; (b) it often involves the ovary in a tubo-ovarian abscess; (c) if it increases it may become attached by adhesions to the uterus and rupture into it, or to the rectum and burst into it, or possibly involve the bladder and open it; (d) the suppuration may be of a tuberculous nature." No mention is made of the formation of pelvic abscess from the limited purulent discharge of a pyo-salpinx, or of the almost always fatal suppurative peritonitis which may occur from a large pyo-salpinx bursting into the peritoneal cavity.

The connection between metritis, perimetritis, salpingitis and ovaritis is clearly shown. We are pleased to find that Macnaughton Jones has abandoned the wholly theoretical attempts formerly made to build up clinical distinctions between what used to be called para- and peri-metritis. This distinction, evolved in the study and vainly sought for for years at the bedside has been cleared away, the misty pathology being pierced by the rays of clinical and operative observation, as our London fogs are illuminated by the electric light. To err with Plato rather than think right with other men is a sentiment which has from the beginning of

medicine dominated many. Let us be thankful when even little by little we can determine to see the truth instead of its shadow.

Bland Sutton writes the chapter on Tubal Pregnancy—no man could do this better, few so well.

In the chapter on affections of the ovaries, there is an excellent pathological summary from Bonnet and Petit, on cortical ovaritis, cirrhosis, cystic ovaritis and pyo-cystic ovaritis. Diagrams from Bland Sutton aid greatly in making clear the classification and pathology of ovarian and allied tumours.

In the treatment of affections of the vulva, many recent and valuable therapeutic agents are discussed. Chapters on affections of the female bladder, on affections of the rectum, on massage, and the very useful list of some of the well known foreign and British health resorts, and an appendix of some recent and valuable extracts from this and similar journals conclude the volume.

Enough has been said to indicate the high estimate we have formed of this work. It has been well said that books are divisible into two classes—the books of the hour and the books of all time. With an ever changing science like ours, very few can belong to the latter class, but our author has clearly a right to claim that, so far as gynæcological knowledge has gone, his sixth edition is well worthy of a place among those of the hour. It is certainly equal, if not more than equal, to any existing manual of gynæcology. It is broad in its range of views, clear in its exposition of practical matters, full and reliable in its therapeutics, and, in a word, a book which will undoubtedly prove of the highest practical utility to the student and the practitioner.

The publishers deserve much credit for the excellent manner in which the book has been produced. L. N.

TRAVAUX D'ELECTROTHERAPIE GYNÉCOLOGIQUE.

PAR LE DR. G. APOSTOLI. Paris, 1894. Vol. I.

The electrical treatment of uterine tumours and other gynæcological affections has been so much discussed lately—unduly vaunted on one side, neglected or scorned on the other—that it certainly is a meritorious work on the part of its most enthusiastic apostle, to collect the more important papers published on the subject. The translations are given in full, with footnotes by Apostoli or the respective translators, for all of which Apostoli takes the responsibility. The English and American contributions occupy a great part of this first volume. Our English readers may prefer to read them in their original language, but will be grateful for the easy reference to the widely scattered papers which this collection affords. The Russian paper by B. Massin, from Slaviansky's clinique, is very exhaustive and soberly written, and will well repay perusal of its French translation. Italy, Denmark, Poland, Hungary, and Canada are represented by only one contribution each, Germany by two. All are translated into French. The publication is intended to be continued half yearly.

A. A. R.

THE MEDICAL MAGAZINE. EDITED BY GEORGE WILSON,
M.A., M.D. November, 1894.

This excellent magazine has now secured a place in medico-social literature which it thoroughly deserves. It ought to be in the hands of all medical men who are anxious to be kept fully informed concerning the many topics which belong to its sphere. It is unique in its field of usefulness, welding together professional and public interests in a manner beyond the scope of either the ordinary lay or medical journals. It has contained many important articles by some of the most capable men in the profession, and its editing reflects the highest credit on Dr. Wilson. The present number is fully as interesting as any of those previously issued.

L. N.

THE ETIOLOGY, PATHOLOGY, AND TREATMENT OF INTESTINAL FISTULA AND ARTIFICIAL ANUS.¹ By N. SENN, M.D., Ph.D., LL.D. *Trans. Chicago Gyn. Soc. and Amer. Journ. Obstet.*, September, 1894.

Etiology.—Intestinal fistulæ are divided into: (1) Intentional. (2) Accidental. The surgeon occasionally resorts to the formation of an intestinal fistula or artificial anus, in the treatment of inoperable mechanical obstruction, by resorting to a colostomy or enterostomy, according to the location of the mechanical obstacle which has necessitated the operation. If in such cases the intestinal opening is to serve only a temporary purpose, it is closed by operative measures in the same manner as will be advised in the discussion of the operative treatment of accidental fistula, after the distal part of the intestinal canal has been rendered permeable spontaneously or by subsequent operative interference.

Accidental fistulæ are produced, according to the immediate cause, by: (1) Gun shot and stab wounds of the abdomen. (2) Submural injury of the bowel. (3) Ulceration of the bowel. (4) Strangulation of bowel. (5) Foreign bodies in intestinal canal. (6) Malignant tumours. (7) Intestinal actinomycosis. (8) Pelvic and other abdominal abscesses. (9) Appendicitis. (10) Unintentional injury to the bowel during abdominal and pelvic operations. (11) Ligatures. (12) Sutures. (13) Drainage tubes.

Submural Injury.—Partial laceration of the intestinal wall without a penetrating wound of the abdomen occasionally results in circumscribed peritonitis, caused by the migration of pathogenic microbes from the intestinal canal through the damaged wall to the surface of the bowel, where, if present in sufficient number, they may produce an abscess which not only completes the intestinal perforation, but may result at the same time in the formation of an external or internal fistula. Such fistulæ are usually small and close spon-

taneously in the course of time. In suspected submural injury of the bowel without evidences of complete rupture and fæcal extravasation, it is of the greatest importance to enforce efficient treatment with a special view of preventing this remote complication.

Ulceration.—Ulceration of the bowel is frequently followed by the formation of an intestinal fistula if the free peritoneal cavity is shut off by adhesions before perforation takes place, and the ulcer manifests no tendency to repair. In the upper part of the intestinal canal the round, perforating ulcer of the duodenum may produce such a result. I have observed two cases of perforating typhoid ulcer in which a diffuse abscess formed, which was freely incised and drained. In one case the abscess cavity contained at least a quart of fæcal material which had evidently been accumulating for more than a week. The patient's general condition contra-indicated search for and suturing of the perforation. In both cases life was prolonged from one to two weeks, but the patients finally succumbed to sepsis. From my own personal observation I am satisfied that the *ulcers which terminate most frequently in the formation of an intestinal fistula are of a tubercular character.* I have observed a number of such instances. The clinical course in such cases is almost typical. The localised peri-intestinal process is usually preceded by symptoms which point to a chronic catarrhal or ulcerative enteritis. A painless, cold abscess appears at the point where the perforated bowel has become attached to the abdominal wall. The abscess develops insidiously and progresses very slowly. If the abscess opens spontaneously or is incised, it contains, as a rule, no fæcal material. The fistula forms later or is produced at once if the granulations lining the abscess wall are scraped away with a sharp spoon. The communicating opening between the lumen of the bowel and the abscess cavity is temporarily blocked with granulations which, when removed or when destroyed by suppuration and degeneration, establish the fistula through which gas and fæcal contents escape. In one case I found such an abscess in the umbilical

region, and in another in the right linea semilunaris. In both cases a fæcal fistula was established, and the patients eventually died from the effects of the primary intestinal infection. Such fistulæ hasten the fatal termination and are not amenable to successful surgical treatment. Tubercular abscesses in communication with a perforated intestinal tubercular ulcer should not be incised. The proper treatment for such cases is tapping of the abscess, followed by injection of idioform emulsion—a form of treatment which will postpone, if not prevent, the formation of an intestinal fistula. König is of the opinion that in many cases of tubercular intestinal fistula the primary disease starts in the peritoneum, resulting in perforation of the intestine from without inward. In such cases multiple fistulæ are often established in rapid succession.

Strangulation.—The functional disturbance of the intestine following strangulated hernia, terminating in gangrene without treatment or under conservative measures, will depend upon the extent of loss of mural tissue, and will vary from a small fistula only large enough to permit the escape of gas to a perfect artificial anus. Occasionally such an accident follows the reposition by taxis of a damaged intestinal loop. The Littre, femoral, and properitoneal herniæ are most likely to be overlooked by the surgeon, and consequently most frequently give rise to this complication.

Foreign Bodies.—Perforation of the intestinal wall by a foreign body, preceded by a circumscribed plastic peritonitis, frequently results in the formation of an abscess which, when it reaches the surface or an adjacent hollow organ, is followed by an intestinal fistula. Small, slender foreign bodies, such as needles, pins, and fish bones, often perforate the intestinal wall and find their way to the surface or into neighbouring organs without giving rise to an intestinal fistula. In one case I removed four fish bones from a small abscess in the median line below the umbilicus, after which the abscess healed promptly and permanently. The foreign bodies which are most frequently found in abscesses preceding intestinal fistula are sharp fragments of bone, gall-stones, and enteroliths.

Malignant Tumours. — Malignant tumours may cause intestinal fistula either by producing obstruction followed by distention and ulceration on proximal side, or by directly implicating the intestinal wall. The latter mode of origin is the most common. The malignant tumour in such instances invades by contiguity the part or organ which becomes the seat of the intestinal fistula, and at the same time perforates the intestinal wall, so that the fistula is surrounded everywhere by malignant tissue. Carcinoma pursues such a course more frequently than sarcoma. Infection of the malignant tumour with pus microbes plays often an important rôle in such cases. The suppurative infection often overshadows the malignant disease so completely that the surgeon is misled in his diagnosis and institutes treatment appropriate for abscess when the operation reveals a malignant tumour as the foundation of the difficulty. Carcinoma of the cæcum complicated by suppuration has been repeatedly mistaken for appendicitis. Carcinoma of the sigmoid flexure and cæcum occasionally results in a pathological anastomosis between the affected part of the bowel and an adjacent loop of the small intestine. Carcinoma of the upper part of the rectum only too often invades the bladder and results in the formation of a recto-vesical fistula. Carcinoma of the stomach and transverse colon have resulted in pathological gastro-colostomy.

Actinomycosis.—A number of cases of intestinal actinomycosis have been recorded in which the disease in its course perforated the intestinal wall and gave rise to diffuse abscesses and intestinal fistula. The ileo-cæcal region is the favourite locality for such processes. In the only case of this kind that came under my own observation the disease originated evidently in the ileo-cæcal region, but the abscess reached the cavity of Retzius and was opened in the median line above the pubes.

Pelvic and Abdominal Abscesses.—By far the most frequent cause of intestinal fistula are pelvic and abdominal abscesses. Such abscesses sometimes are caused by migra-

tion of pyogenic microbes through a damaged or inflamed intestinal wall, perforate later the intestine, and finally open or are incised on the surface when the fistula is completed. The fistulous tract is often long and tortuous. More frequently a pyosalpinx or acute phlegmonous abscess of the para-uterine connective tissue pursues such a course. Such abscesses open most frequently into the rectum, bladder, and intestinal coils upon the floor of the pelvis, but they may open into the cæcum and sigmoid flexure. Externally they point most frequently in the groin, but they may also reach the surface through the sacro-sciatic notch and occasionally extend to the lumbar region. The external fistulous opening may be found in any of these localities. Not an infrequent cause of intestinal fistula is tubercular abscess resulting from tubercular spondylitis and tuberculosis of the pelvic bones. In some cases the abscess is discharged first into the cæcum or rectum ; less frequently into other parts of the large and small intestines, and later reaches the surface ; or the fistula forms in the course of suppurating tubercular tracts. Rectal insufflation is an exceedingly valuable diagnostic test, not only for the purpose of ascertaining whether or not the fistulous tract communicates with the intestine, but also in demonstrating the exact location of the intestinal perforation.

Appendicitis.—Appendicitis is the most frequent cause of intestinal fistula in the ileo-cæcal region. The fistula is produced in one of two ways : (1) Sloughing or perforation of the appendix ; (2) Rupture of an abscess of appendical origin into the cæcum or adjoining intestinal loops, with the subsequent formation of an external opening. If the entire appendix is cast off as a slough with the contents of the abscess in gangrenous appendicitis, the fistulous opening involves the cæcum and occupies that part of the bowel to which the appendix is attached. Clinically such a fistula resembles a cæcal fistula produced by other causes. In partial gangrene of the appendix and perforation of the organ, treated upon the expectant plan by incision and drainage without removal of the appendix, if a fistula per-

sists, the remaining lumen of the appendix communicates with the cæcum on one side and the external fistulous tract on the other. The fistulous opening into the bowel under these circumstances is so small that seldom anything but gas escapes. Such fistulæ occasionally heal spontaneously in the course of a few weeks, but after it has become well established closure of the fistula without operation is not to be expected. A para-typhlitic abscess rupturing into the cæcum often terminates in a permanent cure, but sometimes it results in extensive destruction of the cæcal wall, followed by the formation of a correspondingly large fistulous opening. The location of the cæcal opening will vary according to the situation of the abscess. The cases of cæcal fistula which have come under my own observation involved either the anterior or posterior wall; but it may affect any part of the cæcum, and occasionally the abscess ascends in the direction of the ascending colon, which it may perforate and cause a fistula of this part of the large intestine. I have seen three cases of fistula of the cæcum following appendicitis in which the opening in the abdominal wall and cæcum was large enough to insert three fingers. In all of these cases the fæcal current was arrested at the opening by the presence of an effective spur formed by the projection of the opposite wall toward the opening in the cæcum. It is in cases of this kind, if the abscess has been opened by the surgeon, that he is credited by the patients and friends of having cut the bowel, when in reality the intestinal opening either was present at the time the operation was made or occurred later by sloughing of the inflamed cæcal wall.

Injury of Bowel during Abdominal and Pelvic Operations.—Under this head it is not my intention to discuss those gross lesions of the intestines occurring during abdominal and pelvic operations which the surgeon recognises and resorts at once to the necessary treatment. I wish more particularly to refer to overlooked and incomplete wounds of the bowel as causes of intestinal fistula. Modern gynæcology encourages heroic attempts in the removal of abdominal and pelvic tumours

that only a few years ago would have been regarded as inoperable by the boldest surgeons. The removal of adherent tumours and pus tubes brings the operator often in very close contact with the intestines. The inflammatory processes which have produced the firm adhesions have often resulted in great damage to the adherent part of the intestine. The intestinal wall, from pressure, cicatricial contraction, and impaired nutrition, is often found not much thicker than ordinary writing paper, hence exceedingly liable to be torn during the separation of firm adhesions. The intestine attached to a tumour or pelvic abscess by firm and old adhesions has lost its outer or peritoneal coat over an area corresponding with the extent of the adhesions. Unless the surgeon practises the necessary precaution of making the detachment at the expense of the tumour or tube, if he does not tear an opening into the bowel, he will at least seriously damage the intestinal wall. I have no doubt that in numerous instances of this kind, surgeons have overlooked minute perforations in the bowel which, if they did not result in fatal septic peritonitis, became the direct source later of an intestinal fistula. It must also be remembered that a greatly damaged intestinal wall is permeable to pyogenic microbes, and consequently becomes not infrequently the sole cause of a late infection after laparotomy, and, if the patient survives, of abscess and intestinal fistula. Every experienced surgeon will recall to his memory such mishaps when he could assure himself that in other respects the operation was faultlessly performed. The examination of detached intestinal loops for perforations or other serious damage should not be postponed until completion of the operation, as it may be impossible to find them again at that time. The inspection should be made at once and all defects remedied before additional adhesions are separated. By pursuing such a course, and by detaching the adhesions at the expense of the part to be removed, we will hear less in the future of septic peritonitis, abscess, and intestinal fistula arising from this cause after laparotomy.

Ligatures.—In small wounds and limited gangrene of the bowel Astley Cooper made a small cone, the apex of which corresponded with the injury or disease, and applied a ligature of fine silk around the base. The ligature cuts its way into the lumen of the bowel during the time the resulting defect becomes sealed by plastic lymph. We can readily conceive under what circumstances such a procedure would prove safe and efficient. If the parts included in the ligature, and the ligature itself, are aseptic, the formation of a fistula is prevented by the production of new tissue around the ligature and included mass before the ligature reaches the lumen of the bowel. If, on the other hand, the asepsis is not perfect and suppuration occurs in the track of the ligature, an intestinal perforation is very likely to ensue. After separation of an adherent intestine bleeding points are often tied with silk. Isolation of the bleeding vessel is usually out of question, and more or less of bowel tissue is included in the ligature. It must not be forgotten that under such conditions the bowel has been deprived of its peritoneal investment, and consequently the facilities for encapsulation of the ligature are diminished. If to this is added an extremely attenuated bowel wall, it is not difficult to understand in what way a ligature may sometimes give rise to a late perforation, peritonitis, abscess, and intestinal fistula.

Sutures.—Careless suturing of the abdominal incision is responsible for many accidents to the intestines. Unless the operator resorts to proper precautions the needle may transfix a part of the circumference of the small intestine; on tying the suture the loop is anchored against the external incision, the ligature later cuts its way through the included part of the bowel, and if a fatal peritonitis does not result an intestinal fistula is sure to follow. I have seen two cases of intestinal fistula, in the practice of distinguished surgeons, where I had reason to believe that the intestinal fistula had such an origin. But this is not the only way in which sutures have produced this complication. In

tying the sutures a loop of the underlying intestines may be caught between the suture and the abdominal wall, and on tightening the suture strangulation results, followed by intestinal obstruction, gangrene of the strangulated part of the bowel or coil, abscess, and fistula. Again, an intestinal coil may escape between the sutures and become strangulated between the margins of the wound with similar consequences. I am strongly convinced of the value of a separate row of buried absorbable peritoneal sutures in closing the abdominal incision, both for the purpose of guarding against accidents to the intestines and as a prophylactic measure against ventral hernia.

Drainage Tubes.—The last, but by no means the least, important subject which I shall discuss in connection with the etiology of intestinal fistula is the drainage tube. Prolonged tubular drainage with glass or rubber tubes is a well-known factor in the production of intestinal fistula. The opening in the bowel is produced by pressure atrophy. I am inclined to believe that the elastic pressure caused by rubber drains is more injurious than that exerted by glass tubes. Long continued tubular drainage for suppurative lesions is more dangerous in this respect than similar methods of drainage for parenchymatous oozing or other aseptic pathological conditions. In the former case the suppurative inflammation along the drainage canal adds to the destructive effect of pressure. It will be difficult, if not impossible, to entirely eliminate this etiological element by any amount of care in cases requiring long-continued tubular drainage. In recent cases necessitating drainage for a few days I have been in the habit of surrounding the glass or rubber drain with a few layers of iodoform gauze, for the purpose of diminishing the harmful effects of localised pressure. In drainage for suppurative affections it is advisable to gradually reduce the size of the tube for the same reason, and whenever practicable interpose between the intestine and tube a few layers of iodoform gauze.

(To be continued.)

*SUMMARY OF GYNÆCOLOGY, INCLUDING
OBSTETRICS AND PÆDIATRICS.*

GYNÆCOLOGICAL.

INSANITY AFTER GYNÆCOLOGICAL OPERATIONS—"LA
FOLIE CONSÉCUTIVE AUX OPÉRATIONS GYNÉCOLO-
GIQUE." *Rev. Med. Chir. des Maladies des Femmes*,
September, 1894.

The relative frequency of mental troubles after gynæcological operations is still an undetermined point. Some gynæcologists of very large practice seem rarely or ever to have met with cases of mental disturbance after hysterectomy, ovariectomy or oöphorectomy; others have had quite a converse experience. A recent discussion at the Belgian Society of Gynæcology again directs attention to the subject.

Baldy, of Philadelphia, in 1892 submitted a paper to the American Gynæcological Society, in which he related two cases of his own, one consecutive to an operation for rectocele, the other following oöphorectomy; he also quoted fifteen cases from various authors. His conclusions were:

(1) Grave mental troubles may supervene after operations among patients who have had no former history of hereditary or personal madness.

(2) Insanity is much more frequent after operations performed upon the genital organs, than after operations upon any other part of the body.

(3) Insanity is quite as usual in these cases in men as in women.

(4) The operations may be regarded as the cause of the insanity in such cases as have no antecedent history.

(5) Insanity coming on long (months) after operation is undoubtedly not due to surgical intervention.

(6) Insanity may happen even when the results of the operation have been perfect.

(7) The existence of a neurotic predisposition ought to stay the surgeon's hand, except in cases of absolute injury.

(8) Post-operation insanity is more common than is generally believed.

Dr. Warton Sinkler also believes that insanity after oöphorectomy is especially frequent. Goodell, Kelly, Price and many other eminent American gynæcologists agree that the uterine annexes ought never to be removed for simple nervous conditions. Sinkler writes: "After operations the patients are more nervous than before; mental troubles of diverse forms, insanity and epilepsy are frequently the result."

During the discussion in the Society of Surgery of Paris, in 1892, Regnier reported many cases of insanity occurring in neurasthenic patients after operations on the genital organs; he in 1893, again insisted at the Medical Society of the Elysée, upon the risks with which even the apparently slightest operations were attended.

A case is cited which has formerly been published (Oct., 1893) in the *Review*, subsequent to an operation for double oöphorectomy and irreducible uterine retroflexion; the patient, eight days after operation, was the subject of hallucinations and delirium, and ended her existence by committing suicide.

At the meeting of the Belgian Gynæcological Society in June, 1894, Dr. Jacobs, of Brussels, read a paper on "Post-operation Insanity." He related the particulars of six cases:—

I.—Aged 47, had some years before been the subject of vaginal hysterectomy. She suffered from complete vaginal prolapse, cystocele and rectocele. She had no hereditary tendency to insanity. The artificial menopause was not attended by any special phenomena. There was nothing in her personal history, except some hysterical attacks in youth. The plastic operations were executed in the usual way; re-

covery from chloroform was normal. The evening of the operation she had a violent hysterical attack, during which she tore away the sutures. The attack lasted several hours, and was followed by a comatose condition, lasting several days. On recovery from this the patient was profoundly depressed. Grave symptoms of melancholia obliged her being transferred to an asylum, where she died some weeks later.

II.—Aged 42, chronic uterine disease with old purulent disease of the appendages; total vaginal hysterectomy and oöphorectomy. No hereditary tendency. She had some melancholic symptoms after a normal parturition. Six months after operation she developed melancholic symptoms, very rapid wasting and death.

III.—In course of a laparotomy for unilateral appendage disease, Jacobs, in consequence of troublesome hæmorrhage, had to use an intra-abdominal tampon of iodoform gauze. Patient, aged 23, had never shown any particular head affection. The evening of operation she had furious delirium and had to be tied into bed. The gauze was withdrawn, as Jacobs regarded the case as one of iodoform poisoning. Delirium persisted; twenty-four hours after the patient died, never having regained consciousness. The pulse was 140, but the temperature never exceeded 37.2°C .

IV.—Aged 32, multipara; no hereditary history. Operated on by total vaginal operation (uterus and appendages) for chronic bilateral disease. Very nervous temperament, frequent hysterical attacks. Operation under chloroform. Evening of operation attack of hysteria with delirium. Temperature 37.2°C ., pulse frequent. Displacement of forceps, free hæmorrhage, subcutaneous injections of saline fluid. Continuance of delirium; death on fourth day.

V.—Aged 39, same operation for the same condition as in Case IV. No hereditary tendency. Nervous temperament; frequent hysterical attacks. In the evening furious delirium, limbs of patient had to be tied. Pulse 120, temperature 37.5°C . Very acute erotic delirium continued for four days. She improved on the fifth and sixth day. She is now conva-

lescent and has no recollection of what immediately followed the operation.

VI.—Aged 28, subjected to curetting with amputation of the cervix under chloroform; had peculiar head symptoms. She did not know that she was at home; she felt ill all over; she neither ate nor slept. Bromide of potassium after some days seemed to effect a slight improvement.

Each of these cases was anæsthetised by chloroform. No case had a temperature of 39° C., nor were any symptoms of post-operation septicæmia noted. One attributes the majority of cases of mental disorder consecutive to operation upon the pelvic organs, to the same causes which are likely to arise from any surgical intervention by shock, sepsis or antiseptic intoxication, or from the drugs employed during or after operation, for example, the intoxication from chloroform.

Jacobs then referred to the researches made by Americans, which tended to show that very few cases of mental disorder were produced in women from the artificial establishment of the menopause. Hereditary predisposition only accounts for a small proportion.

Case III. he thought should, undoubtedly, be referred to iodoform poisoning. Cases IV. and V. were due to shock. Shock after operation may produce an explosion of delirium which may go on rapidly in weak and anæmic people, predisposed to marked nervous affections, but this is not madness, it is a transitory delirium. In such cases the prognosis is usually favourable. It is wholly different when the central symptoms appear some weeks or months after operation—incurability is here the rule and death is generally rapid. Case II. is illustrative. Case VI. also rests in this category; despite the indefinite symptoms the prognosis is hardly favourable.

Jacobs, in further referring to Rohé states that the latter has obtained 30 per cent. of cures as the result of removing diseased appendages in women who were insane, and that these cures are maintained after from eight to twelve months' observation. Jacobs considers that Rohé

might still further improve the prospects of his patients if he removed the uterus *per vaginam* as well as the appendages.

In estimating this question it is evident (1) that a proportion (clearly a small one) of patients whose genital organs are removed may as a consequence or sequence develop neurotic symptoms of great severity even amounting to temporary or permanent insanity. (2) That patients who have been subjects of marked antecedent hysteria are more likely to suffer from post-operation neurosis than others, even than women with hereditary history of mental instability, but personally of equable temperament. (3) That if insanity is due to or even aggravated by uterine or tubo-ovarian disease of *a demonstrable nature*, about 20 or 30 per cent. of these cases may derive great benefit from operation. (4) At the same time it is admittedly morally and surgically wrong to operate either for slight or pronounced neurosis unless one can obtain clinical evidence that the pelvic organs are structurally affected.

We are not quite prepared to accept Jacobs' interpretation of some of his cases related above, but possibly the necessarily condensed clinical records given may be less convincing than would appear from fuller accounts.

L. N.

**TOTAL EXTIRPATION OF UTERUS FOR FIBROMYOMA,
COMPLICATED BY PREGNANCY. By CHAS. N. SMITH.
American Journal of Obstetrics, p. 365, September, 1894.**

Patient aged 27; married; three and a-half years previously had living child at term. In February, 1893, miscarried at the sixth month, labour very short. Since this delivery has had an ill-defined feeling as of a body moving from side to side in the lower abdomen. Menses regular, duration seven days, never profuse. Last period began December 21, 1893, and continued seven days. Six weeks after had symptoms of early pregnancy. Four weeks after her last menstruation she detected a hard mass in the

left iliac region, which continuously and rapidly increased in size. Had pain in abdomen and œdema in legs and feet.

April 8, 1894.—Examination showed that the lower abdomen was uniformly distended by a hard, immovable tumour of the uterus which completely fitted the pelvic cavity, and was within a finger's breadth of the umbilicus. Above the hard mass, and connected with it by a broad base, was a somewhat soft, movable, fluctuating tumour readily appreciable by the eye. It was entirely to the left of the median line, and extended upward to the ribs and backward into the loin. Fourth month of pregnancy and fibro-myoma of uterus diagnosed.

Operation on April 11.—Abdomen opened by long incision, tumour turned out. Some portions of tumour hard, smooth and uniform; from two-thirds of its upper surface sprang a soft, fluctuating tumour into which the Fallopian tubes passed. Ovaries seemed healthy. The tubes and broad ligaments were much elongated, the latter being lifted up as in normal pregnancy. No foetal body could be distinguished in the cystic portion of the growth. An aspirator was passed into this part, only blood was obtained; there was free hæmorrhage from the puncture. The operation was concluded by closing the abdomen. No untoward result happened.

April 26, Total Extirpation Effected.—The uterus was cut free from its vaginal attachments, the bladder separated from the uterus, and the uterine arteries clamped prior to opening the abdomen. Abdominal incision through scar of first operation. Although only fifteen days had elapsed since the exploratory operation the union was firm and complete. The tumour in both portions was distinctly larger, an incision of eight inches as compared with six on previous occasion being requisite for the extra-abdominal expression of the mass. After extrusion of the tumour the patient was placed in the Trendelenburg position — the ovarian arteries ligated, an incision made across the anterior surface of the tumour one and a-half inches above the bladder, and one on the

same level on the posterior surface. Separation of the peritoneum from the tumour was then completed, the broad ligaments divided and the tumour lifted away. The uterine arteries were ligated, the clamps removed, the ligatures carried into the vagina, which was packed from above with iodoform gauze. With the exception of the ligatures on the ovarian arteries, all were so placed as not to include peritoneum. The ligatures on the ovarian arteries were cut short. The edges of the peritoneal flaps which had been separated from the anterior and posterior surfaces of the tumour were brought into apposition with catgut (Lembert's) sutures, wholly shutting off the vagina, and leaving all stumps with their ligatures below and outside of the peritoneal cavity, with the exception of the pedicles of the ovarian arteries. A fold of peritoneum was stitched over the said surfaces of these, so that no raw surface was left within the peritoneal cavity. The tumour weighed eight pounds. Recovery was smooth and uneventful. Bowels moved second day. Vaginal packing changed on second day, and daily afterwards until closure of the vaginal vault had occurred. Abdominal stitches were removed on the eleventh day. The serous discharge from the vagina was profuse for the first twenty-four hours. An excellent block illustration shews the relations of the tumour and foetus.

We congratulate the author on the result of his case ; still more on his thorough honesty in detailing the first incomplete operation. The case is a most teaching one, and taken in connection with Mr. Jessett's paper and the discussion thereon, *v.* page 317, is of great interest. As an example of the converse condition, *viz.*, spontaneous delivery despite the existence of a large fibroid, we would direct attention to a case recorded by Dr. Remy in the *Archives de Tocologie et de Gynecologie*, October, 1894, page 736. In Remy's case the tumour was sub-peritoneal, fully the size of the uterus at term. The patient was a primipara ; labour was completed in eight hours, there was no hæmorrhage. There must be a wide line drawn between the prognosis and necessary treatment of

cases of interstitial and sub-peritoneal fibro-myomata complicated by pregnancy.

L. N.

PELVIC INFLAMMATION ATTENDED WITH ABSCESS OF
THE OVARY, by Dr. C. J. CULLINGWORTH.

A paper under the above title was read at the Obstetrical Society of London on October 3. The author pointed out that the form of pelvic inflammation with which small suppurating cysts of the ovary and ovarian abscesses are usually associated is not pelvic cellulitis, but salpingitis, the ovarian suppuration being due to secondary infection. He briefly described the course of events when salpingitis is attended with profuse suppuration, showing how the pus may either be confined in the Fallopian tube (by occlusion of the abdominal ostium), or (if the abdominal opening remain patulous) be discharged through that opening and form an intra-peritoneal abscess. He pointed out that although the usual seat of such an intra-peritoneal abscess is the pouch of Douglas, it may, in cases where the tube has been lifted out of the pelvis by the development of the pregnant uterus, form in a different situation—for example, at the upper and lateral part of the pelvis, near the brim. He showed that wherever the intra-peritoneal abscess is formed it is usual to find the ovary constituting part of its wall. In this way the ovary is specially liable to secondary infection, the more so, probably, if it is already the seat of incipient cystic disease.

Three cases were related of abscess in the ovary due to secondary infection of this kind. In the first case two separate abscesses were found in the ovary, one at its outer end close to the intra-peritoneal abscess, and one at its inner end some distance away. In the second case there were also two abscesses, but the mischief was more advanced, a communication having been opened up between the two abscesses by a process of ulceration. In the third case a still more advanced stage was seen, the ovary having ruptured and the contents of the abscess having escaped. The first two were

puerperal cases, and in them the intra-peritoneal abscess formed by the discharge of the contents of a suppurating Fallopian tube, was situated high up in the pelvis, close to the edge of the psoas muscle where it overhangs the pelvic brim. In each case the suppurating ovary formed part of the wall of the abscess. These two cases recovered, the third died.

The narration of the cases was followed by a few remarks on some of the modes of termination of ovarian abscess, and on the illusory character of a temporary subsidence of symptoms, with apparent restoration to health, in some of these cases of severe pelvic inflammation.

The paper concluded with a reference to eighty-three cases in which the author had performed abdominal section for non-cellulitic pelvic suppuration. An analysis of these cases shows that ovarian suppuration occurred in a large percentage, and that, next to purulent salpingitis, it is the most frequent form of non-cellulitic suppuration occurring within the female pelvis.

L. N.

THE PRESENT STATUS OF THE TREATMENT OF PELVIC INFLAMMATION, OR HOW SHALL WE DEAL WITH PELVIC INFLAMMATORY TROUBLES? By Dr. W. B. DORSETT, of St. Louis, *Journal of Amer. Med. Association*, October 13, 1894.

The author drew the following deductions:

(1) Pus in quantities is hard to deal with down in the pelvis in laparotomy cases, and, if possible, should be evacuated prior to taking out the tubes and ovaries, either through the *cul-de-sac* of Douglas, or if between the layers of the broad ligament at the side of the uterus, laparotomy should be done at some future time.

(2) Pus sacs in the tube near the uterine end of the tube can be evacuated through the uterus by packing the horn.

(3) Parametritis or cellulitis of the ancients is, except under rare instances, a secondary trouble due to a foul uterine

cavity. Clean out the cavity and stop the source of poison and you do the best thing possible to be done.

L. N.

INFLAMMATORY DISEASE OF THE UTERUS AND APPENDAGES UNDER VARIOUS MODES OF TREATMENT, by Dr. JOSEPH PRICE, of Philadelphia, *Journal of Amer. Med. Association*, October 13, 1894.

The methods of treatment of pelvic disease may be broadly classed as those that are proved, and those that are experimental. Many of the operations now successful were formerly failures because of the insufficient knowledge of how to deal with a wounded gut, how to make an anastomosis, or to do a bowel resection. Hence it is to be put down as a postulate in pelvic surgery that no man has a right to attempt it who does not know how to deal with all the complexities of intestinal surgery. To know when to stitch and when not to stitch the intestine, is as necessary as to know when and when not to operate. The leaving of pus tubes to recover of themselves is just one step removed to stuffing them with gauze and trusting to Providence. To puncture and evacuate and stitch a suppurating cyst—say a real ovarian cyst—would be derided out of sight, and yet, said the essayist, we have operators who do not hesitate to do this with the smaller pus tube.

In the discussion which followed, Dr. Geo. H. Rohé, of Catonsville, Md., said that conservative surgeons were very much shocked at first by the proposition to remove the uterus, together with the adnexa, in cases of inflammatory disease in the pelvis. However, the operation has won its way against opposition and must now be considered as an elective procedure in cases of extensive suppuration with adhesion, and especially in those cases so numerous in which the endometrium is likewise the seat of purulent inflammation. Gonorrhœal, puerperal or tubercular inflammations and dense adhesions, with displacement of the uterus, demand renoval

of this organ as well as of the appendages, if permanent good results are expected. Total extirpation of the uterus and appendages by the vaginal method for pelvic suppuration was first done by Péan in 1886. Péan, Segond, Doyen, Jacobs and Landau have performed the operation upwards of five hundred times with an average mortality of less than 5 per cent. The operation by the vagina is easier than abdominal extirpation, and in the hands of most surgeons who have performed it, is attended by less shock. It leaves the parts in condition for perfect drainage. The after-treatment is simple. Patients may sit up in a week or ten days. Forceps are preferred to the ligature for hæmostasis.

L. N.

THE MINUTE ANATOMY OF THE FALLOPIAN TUBES.

Dr. Mary A. Dixon Jones (American Journal of Obstetrics, June, 1894, p. 785) sums up a series of extended researches thus :

In the tube wall are six layers of smooth muscles. The two main layers are the circular and the longitudinal. These interlace; the circular has the broader area and is nearer the calibre, the longitudinal is nearer the peritoneum.

The inner surface of the tube wall is made up of myxomatous or myxofibrous connective tissue, which in turn is supplied with two muscle layers, a broader longitudinal and a narrow circular, both interlacing.

The mucosa has folds with many ramifications, serving for the occlusion of the calibre during life. These folds are the result of alternate contractions and extensions of the two muscle layers of the mucosa, the transverse and longitudinal, which are visible throughout all the folds and all the ramifications, arranged in bundles close beneath the epithelial layer.

Outside of the longitudinal layer of the tube wall is the layer of blood-vessels, mainly arteries and veins, in an arrangement similar to that known to exist in the wall of the uterus.

Beyond the vascular layers are the two narrow layers of smooth muscle fibres, both being oblique, both traceable from the uterine ostium up to the fimbriated extremity of the tube, and they correspond to the two oblique layers of the wall of the uterus. The two oblique layers are bordered outwardly by the peritoneum, and seem to serve mainly for the regulation of the afflux of blood in the subjacent arteries and veins.

The circular and longitudinal muscle layers are antagonistic in their action. If one layer is contracted the other is relaxed. Again, the two muscle layers of the tube wall proper are antagonistic in their action to the muscles of the mucosa. The contraction of the muscles of the tube wall is accompanied by a corresponding relaxation of the muscles of the mucosa. Within the folds the primary, secondary and tertiary ramifications are produced by alternate contractions of smaller portions of the muscle layers of the mucosa.

L. N.

CONTRIBUTIONS TO THE HISTOLOGY AND HISTOGENESIS
OF SARCOMA OF THE UTERUS. By J. WHITRIDGE
WILLIAMS. *Am. Jour. Obstet.*, 1894, xxix., No. 6.

The author recognises two great groups of sarcoma of the uterus, those affecting (1) its mucosa, and (2) its parenchyma. Sarcoma of the endometrium occurs either as a diffuse infiltration of the mucosa or as circumscribed growths which tend to assume a polypoid form. The former is the more frequent, and is usually situated at or near the fundus. In most cases the process remains limited to the mucosa, but it may invade the uterine wall, and lead to its destruction. Sarcoma of the parenchyma also appears in the diffuse and circumscribed form. The circumscribed form bears a marked resemblance to myomata, but is not usually surrounded by a capsule.

Microscopically uterine sarcoma may consist of round, spindle, or giant cells, or a mixture of these forms. The

round cells are the more frequent, but the spindle cell is not of great rarity.

Sarcoma of the cervix uteri the author regards as a more common condition than authorities affirm. He recognises in this location the grape-like sarcoma as the most common.

The combinations of uterine sarcoma with other tumour formations are adeno-, carcino-, chondro-, and osteo-sarcoma, with the addition of a still more recently discovered variety, the deciduo-cellulare. The last is the most malignant of all forms.

Histogenesis.—Sarcoma of the endometrium can have only two sources of origin, the interglandular tissue and the vessel walls. Sarcomata of the parenchyma of the uterus have been supposed by many authorities to be invariably the result of secondary changes in uterine myomata, but they also may arise from the interstitial connective tissue or the blood-vessels of the uterine wall.

A very elaborate illustrated description is given (1) of a specimen in which the processes of transformation of a primary fibro-myomata into a sarcoma is clearly shown; (2) of a sarcoma of the endometrium associated with myomata of the uterus; and (3) of a melano-sarcoma of both the body and cervix of the uterus. The last is claimed as the only well-authenticated case of melano-sarcoma of the uterus on record. A point of considerable interest in connection with the three cases described is that they all contained considerable numbers of giant cells with from two or three to eight or ten central nuclei.

L. N.

PRECAUTIONS NECESSARY IN THE USE OF PESSARIES.

Nouv. Arch. d'Obstet. et de Gyn., April 25, 1894.

Neugerbauer has collected 282 cases in which pessaries have been the cause of more or less grave lesions of the genital organs, including twenty-three perforations of the rectum, twenty of the bladder, one of both the bladder and

rectum, two of the *cul-de-sac* of Douglas, three of penetration of the pessary into the pelvic connective tissue, six into the uterine cavity, four of introduction of the pessary into the bladder through a fistula, and a very large number of cases of para- and peri-metritis, and even peritonitis and septicæmia, including eight fatal cases, eight cases of carcinoma of the vagina, and many cases of incarceration in which the pessary could be extracted only by surgical means.

In spite of this long and varied list of accidents the author by no means rejects the pessary from the gynæcological armamentarium, but does insist that when the use of a pessary is decided upon great care shall be taken as to its form, size, and the substance from which it is made, and that, furthermore, the patient shall subsequently be under the control of the physician. Neugebauer himself generally uses globular or ovoid pessaries.

The author lays great stress on the point that the patient should exactly understand how to withdraw the pessary herself. In cases of prolapsus the patient should understand how to withdraw the pessary at night and insert it in the morning herself, and in cases of pessaries used for retro-displacements the patient should be taught to withdraw the pessary herself on feeling the slightest pain from its presence, and not be forced to wait until her physician can do it for her.

L. N.

A NEW OPERATION FOR PROCIDENTIA UTERI.

Central. f. Gynæcol., 1894, No. 47.

In a short preliminary account, *Dr. H. W. Freund* calls attention to two cases of procidentia uteri cured by means of silver wire sutures¹ circularly drawn underneath the mucous membrane of the vagina. The sutures are placed in such a manner as to form a supporting pillar to the uterus and

¹ Others use silkworm gut.

tightened sufficiently to prevent prolapsus after replacement. The technique is simple. The silver wires, usually four or five in number, are drawn by means of a curved needle underneath the mucous membrane of the vagina, the first wire being about one inch from the os externum. The wire is carried underneath the mucous membrane to its full circumference, always re-entering the puncture of exit, until it reaches the first puncture, when the portio vaginalis is pushed back by an assistant and the wire drawn tight, twisted and allowed to sink beneath the mucous membrane. In distances of three-fourths of an inch the sutures are introduced until the vagina is re-inverted and the uterus replaced. Care must be taken not to allow any of the wire to lie on the surface lest suppuration and necrosis should follow.

In the two cases reported only local anæsthesia was resorted to, and the results were highly gratifying. The cases operated upon had both passed the menopause, and the author questions the advisability of using this procedure on women liable to become pregnant.

L. N.

INDICATIONS FOR VAGINO-FIXATION OF THE UTERUS.

By PESTALLOZA. *Annals of Gynæcology and Pædiatry*, August, 1894.

This operation has been advised with a certain enthusiasm, and the speaker was one who had counselled it, but at present he was not so absolute in his opinion. The after-results of this operation are not always perfect, and in the majority of the cases retroversion reappeared some time after vaginofixation. He considers, according to his personal practice, that this operation should be limited to cases where uteri in retroflexion are reducible but not to hold in place the pessary. It is then that one should operate. In cases with adhesions, he prefers abdominal hysteropexy and shortening of the round ligaments by vaginal fixation. Dr. Pestalloza considers that the last-mentioned operation has a value equiva-

lent to the pessary. One should come back to a more moderate opinion and limit the indications for this operation.

L. N.

INVETERATE RETROFLEXION OF THE UTERUS TREATED
BY THE ALEXANDER-ALQUIÉ OPERATION OR BY HYS-
TEROPEXIA.

Mr. Mayo Robson in the *Quarterly Journal* for October, 1894, contributes a paper on this topic. He says that although the greater number of cases of retroflexion of the uterus can be treated satisfactorily by general and local treatment, there are certain cases where such fail to relieve. In some cases perinæorrhaphy will suffice, but there are others still more obstinate, where something further is required in order to effect a cure. He then narrates two cases: in one the retroflexion was complicated with adhesions; cœliotomy was performed, the adherent appendages were separated from their adhesions, but not removed, and the fundus raised; it was then fixed by means of five sutures, one through the base of each round ligament, and three through the anterior surface of the uterus. The patient made an uninterrupted recovery, and lost all her old troubles. In the other case there were no adhesions, and pessaries having failed, the modification of Alexander's operation known as the Alexander-Alquié was performed. This patient, also, was quite cured. The modification of Alexander's operation consists in laying open the inguinal canals so as to expose the round ligaments, which are then drawn out until the appearance of a collar of peritoneum, the canal of Nuch, which is easily peeled back; the ligaments are then fixed to the aponeuroses in the usual manner. Mr. Robson considers these operations safe, efficient, and devoid of mutilation.

On the whole we consider that with patience even very inveterate cases of retroflexion, where there are no adhesions, may be cured, or, by a properly fitting pessary, a patient's life may be made fairly comfortable, but where there are adhesions the only way to effect a cure is to open the

abdomen, free the adhesions, and perform hysteropexy. We have seen Alexander's operation end fatally, owing to peritonitis being set up from too prolonged manipulation, outside the peritoneum, in the endeavour to get at the ends of the round ligaments.

H. S.

TREATMENT OF VULVO - VAGINAL VEGETATIONS BY CAUTERISATIONS WITH PURE CARBOLIC ACID. *Journal de Méd. de Bordeaux*, review in *Journ. de Méd. et Chirurgie pratiques*, July 10, 1894.

Dr. Raulin says he has treated with success vulvo-vaginal vegetations of considerable extent by this method, formerly employed by Tomaso de Amicis, Jullien, and Derville. The treatment is as follows : After carefully washing and cleaning the parts, the bottle containing the carbolic acid is heated either by a flame or by placing it in boiling water until the substance is liquefied. A piece of absorbent cotton dipped in the acid is passed over the entire surface of the vegetation. The colour of the tumour turns immediately from the pink that it was to a dull white. This layer is eliminated after two or three days, or is removed by washing, and another application is made in the same way. The neighbouring parts are covered with vaseline, so as to protect them from the acid. The applications are entirely free from pain, and even if there were, a little cocaine will be all that is necessary. The therapeutic effect of these applications is sure and rapid. In one of the writer's cases three applications were sufficient.

L. N.

VEGETATIONS OF THE VULVA.

Rev. de Ther. Med. Chir., April 15, 1894.

Lutaud divides them into : (1) Small, sessile, non-pedunculated ; (2) those that from their size and extent demand surgical treatment. No matter of what description, vegetations are developed and sustained by morbid fluid secretions

of the vagina, urethra, or anus, and especially by blenorrhagic pus. The cause of the secretion is accordingly to be treated.

As regards local treatment of the vegetations :—

(a) Small growths. Astringent powders are always of value, such as alum, or one containing salicylic acid. Such powders should be applied three or four times daily, the parts first having been washed by an alcohol corrosive sublimate solution and then thoroughly dried. The caustics are excellent, but their use is painful. The best prescriptions are :—

Chromic acid	...	...	...	...	5
Water	...	...	...	...	25
Or,					
Salicylic acid	...	...	...	...	5
Acetic acid	...	...	...	...	15
Or,					
Carbolic acid	...	...	..	...	5
Alcohol	...	...	...	...	q. s.

These caustics are applied by means of a little cotton held in forceps. The cauterised part is at once covered by dry cotton. The applications are made every second day.

Removal with the curette and excision are suitable for small vegetations pediculated and easily detached. The pain can be rendered very slight by a spray of ether or chloride of methyl. The somewhat severe hæmorrhage is best controlled by leaving on pressure forceps a few hours.

(b) Large vegetations. Their development may be hindered by the desiccating powders already mentioned, but a cure cannot be hoped for by such simple means. To remove such a growth either excision, ligature or the use of the thermo-cautery must be resorted to.

With local anæsthesia the vegetation may be snipped off with scissors and the edges of the cut united with fine catgut or silk sutures. Ligature is often successful. Silk is best employed. Thermo-cautery or galvano-cautery should be reserved for large growths with extensive pedicles. But for this the patient should be etherised. Hæmorrhage need not

be feared if one uses an elastic ligature, and if the base of the tumour is very slowly cut with the cautery at a dull red heat.

The cautery is the best means of destroying such vegetations. It is radical and least liable to be followed by a return. Its only inconvenience is that it is too painful to be used without general anæsthesia. L. N.

A DISLOCATED SPLEEN ADHERENT TO THE PELVIC ORGANS REMOVED AS BEING A UTERINE FIBROMA. L. N. VARNEK, *J. Letopis*, No. 1, 1894, quoted in *Rev. de Ciencias Medicas*, No. 9, 1894.

A young woman of 21, noticed about a month after her second confinement, a swelling about the size of a closed fist, which rolled about in her abdomen. After about a year this swelling became fixed in the hypogastrium and began to cause such suffering as ultimately led her to enter the hospital with a view to its removal. The tumour was diagnosed as a subserous fibroma of the uterus with adhesions to the abdominal wall and local peritonitis, and at the laparotomy was found to be firmly attached to the abdominal wall, the omentum, the broad ligaments, and the posterior surface of the uterus, with a pedicle formed by a coarse cord which passed towards the left hypochondrium, and which was cut without its point of insertion being ascertained. The patient recovered perfectly, but after two years became phthisical and died in the spring of 1893. Microscopic examination showed that the tumour was the degenerated spleen, the degeneration probably of old date, as the woman had suffered from fevers in her childhood though she could not affirm them to have been malarial. Dulness on percussion over the splenic region persisted in spite of the absence of the organ, as was established by several physicians unacquainted with the result of the operation, who concurred that though the spleen could not be felt by palpation, it was, judging by percussion, normal. As the patient's system was already accustomed to the loss of function of the spleen her perfect recovery is not wonderful. J. J. M.

INFLUENCE OF SEA BATHS ON MENSTRUATION.

M. Houzel (*Congrès d'Hydrothérapie Marine, Boulogne-s.-Mer*, July, 1894) stated that most authors are in accord in the opinion that baths are contra-indicated during the menstrual period. This opinion may be correct as regards the women of towns, but his personal observation has shown him that the robust and perfectly-natural woman is not in a condition bordering on illness during this period. With her menstruation is a purely physiological act, silently accomplished, and accommodating itself to the fatigues and vicissitudes which the necessities of life impose upon her. Sea-baths, far from deranging, favour menstruation, prolong the period of sexual activity, and increase her fruitfulness. He has frequently been surprised to see the fisherwomen, poorly nourished, slightly clad, feet and limbs bare, wade into the sea up to the waist, sometimes up to the armpits, remaining there for hours. In spring and summer, having filled their nets with shell-fish, they come out of the water, and with their wet clothing, and the dripping net on their shoulder traverse the town selling their fish. In the winter they may be seen, in coldest weather with a heavy basket of mussels on their backs, from which icy water constantly drips. Sometimes their clothes are completely frozen during menstruation, yet without causing any ill effects whatever. All this may seem surprising, and may by many be attributed to race and habit; but a study of sea-baths and their effect on the uterus easily explains it, and shows that all women, except those with grave lesions of the appendages might imitate these fisherwomen to great advantage, provided that they allow themselves time to receive the benefit of the sea-air and to become accustomed to sea-baths before going into the water during the menstrual period. Of 123 fisherwomen examined by Dr. Houzel puberty occurred, on an average, at the age of 13 years and 10 months, and the menopause at 49 years and 6 months—a difference in their favour as regards the period of fecundity, of 3 years and 7 months

over women not going into the sea. According to Raciborski (*Traité de la menstruation*, pp. 200, 248, *et seq.*) the average period of sexual life of the Parisian woman is 31 years and 7 months.

L. N.

PROFUSE MENSTRUATION.

By Dr. C. P. NOBLE. *Practitioner*, June, 1894.

The following conclusions are arrived at: (1) Menorrhagia in young virgins is usually functioned and curable by general treatment; (2) Menorrhagia in young child-bearing women is usually due to some mishap in connection with pregnancy or parturition. Menorrhagia in this class is curable, usually requiring local treatment, and perhaps operative interference; (3) Menorrhagia in women approaching the forties, or older, is due to gross diseases of the uterus, such as fibroids or malignant tumours. Menorrhagia occurring in this class of women, except where due to cancer, is curable, but almost invariably requires operative treatment; (4) As menorrhagia is a symptom and not a disease, an exact diagnosis is requisite in every case; (5) There is no treatment for menorrhagia *per se*. Dr. Noble strongly insists upon the necessity for avoiding the old fallacy that irregular and profuse bleedings about the forties were to be regarded as natural to the period of life, and that they would give no further trouble with the completion of the climacteric. Such hæmorrhages must ever be regarded as indicative of gross lesion of the womb, most probably of malignant disease. Where hæmorrhages exist at this period of life an examination must be insisted upon.

H. S.

CYSTITIS IN THE FEMALE.

LUTAUD, *Journal de Médecine de Paris*, July 22, 1894.

ACUTE FORM.—Morphine hydrochlorate, cocaine hydrochlorate, each 0.01 gramme ($\frac{1}{10}$ grain); extract of belladonna, 0.005 gramme ($\frac{1}{20}$ grain); cacao-butter, 3 grammes (46 grains). Make one suppository. Give every four hours until pain and

tenesmus cease. If insomnia, give rectal injection containing chloral hydrate, 4 grammes (1 fluid drachm); 1 yelk of egg; water or milk, 150 grammes ($4\frac{3}{4}$ fluid ounces). Poultices, sitz-baths, hot fomentations, &c., preferable to general treatment during acute period.

CHRONIC FORM.—If inflammation and pain have subsided introduce elastic or glass sound, to which adapt syringe holding 100 to 150 grammes ($3\frac{1}{4}$ to $4\frac{3}{4}$ ounces), using following for injection: boric acid, 40 grammes ($1\frac{1}{4}$ ounces); biborate of sodium, 5 grammes ($1\frac{1}{4}$ drachms); distilled water, 1 litre (quart). Inject 50 grammes ($1\frac{1}{2}$ fluid ounces) each time, or, if bladder be irritable, 30 grammes (1 ounce). Follow with injection of 150 grammes ($4\frac{3}{4}$ fluid ounces) of warm water, to which is added 1 teaspoonful of following emulsion: powdered iodoform, 30 grammes (1 ounce); glycerin, 40 grammes ($1\frac{1}{4}$ ounces); distilled water, 20 grammes (5 fluid drachms); gum tragacanth, 0.25 gramme (4 grains); also institute general treatment, pichi, buchu, &c., as indicated. If pus in urine, give following: benzoic acid, 1 gramme ($15\frac{1}{2}$ grains); orange-flower water, 50 grammes ($1\frac{1}{2}$ fluid ounces); boiled water, 900 grammes (29 fluid ounces); sugar, 100 grammes ($3\frac{1}{4}$ ounces); 1 glass between meals.

L. N.

CYSTITIS IN THE FEMALE, WITH SPECIAL REFERENCE TO TREATMENT. JOHN C. HERSLER, M.D. *Univ. Med. Mag.*, v., No. 12.

The chief indications for treatment are:—

(1) To remove any discoverable source or sources of irritation which act through the medium of the urine. This may be effected by a milk diet, and a discontinuance of the use of acids, pepper, &c. Any mechanical source of vesical irritation should receive appropriate treatment.

(2) The urine should be rendered bland by the use of a milk diet, the ingestion of considerable quantities of water, the administration of potassium citrate, if the urine be too acid, or of boric acid if it be alkaline.

(3) Pelvic congestion should be relieved by hot vaginal douches, placing the patient in the knee-chest position, and the correction of constipation.

(4) The inflamed cystic mucous membrane may be relieved by the administration of boric acid, salol, ol. santal, copaiba, or creosote by mouth; or the use of injections of boric acid, carbolic acid, or nitrate of silver in suitable strengths.

(5) The patient's general health should be improved by tonics, &c.

(6) Rest in bed, especially in all acute cases, is absolutely imperative.

While advocating direct local treatment for cases of cystitis which do not readily respond to ordinary therapeutic measures, the writer advises that it should be employed with judgment and caution.

L. N.

IRRITABLE BLADDER IN WOMEN.

Medical Week, May 18, 1894.

Dr. O. Zuckerkindl remarks the term irritable bladder is applied to an affection characterised by an unnaturally frequent and intense desire to urinate. On emptying the bladder with a catheter, it is found that at the end of micturition it contracts spasmodically several times. This group of symptoms may be the result of inflammatory affections of the urethra or bladder, but may also exist without any anatomical lesion whatever of the bladder. It is the latter condition which has been designated as *nervous bladder*. In women, it is exceedingly difficult to discover the lesion which gives rise to this group of symptoms. The examination must, therefore, be as thorough as possible, all the means at our disposal being employed to the fullest extent. In several cases of irritable bladder in women one finds hyperæmia of the floor of the bladder and the posterior portion of the urethra, and no doubt this local hyperæmia is the determining cause of the exaggerated reflex irritability

of the vesical mucosa. The grounds on which this view is based are the following:—The characteristic symptoms of irritable bladder are often found to exist as a transient condition consequent upon congestion of the genital organs, as, for instance, during the catamenia, after sexual intercourse, in the various stages of gestation, on the occasion of a myoma of the uterus, &c.; this is due to the fact that the urinary bladder of a woman is much more mobile than that of a man, on account of its close connection with the genital organs, which are exposed to such a variety of physiological and pathological changes.

The obvious conclusion to be drawn from these considerations is that the treatment of irritable bladder in women should be especially directed to reaching the alterations in the genital organs on which the condition depends.

L. N.

A UTERO-UTERINE FISTULA CURED BY OPERATION.

Medical Press and Circular, November 7, 1894.

At the Medical Society of Berlin, *Hr. Maekemodt* gave the following account:—

On the occasion of delivering a X.-para with forceps the obstetrician was unfortunate enough to cause an extensive laceration of the cervix, after which a permanent dribbling of urine took place. On admission into the Karola Hospital, Dresden, *Hr. Schramm* discovered a fistula from a ureter leading through the uterus. He first of all dilated with sponge tents, in order to ascertain whether the fistula was lateral, and then made an opening through the bladder and cervix. Not succeeding, the patient was sent to the speaker. He had already had two cases of fistula of the ureter which he had operated on successfully, and which he had published. A successful result was brought about by converting the ureter-uterine fistula into a ureter-vesical one. On examining the patient he discovered a rent reaching very high, in the angle of which was an opening into the ureter. First of

all the vaginal arch, the collum uteri, and the uterus itself were extirpated. The ureter was separated from the uterus, and ligatured, and the uterus was then removed. The peritoneum was then carefully closed and the ureter fastened into the angle of the vagina, thus forming a ureter-vaginal fistula. The urine escaping from the left ureter and bladder could be compared with that from the right ureter and vagina, and it was found the daily difference in action of the two kidneys was great. In eleven days one and a-half litres more urine came from the right than from the left kidney. Three weeks later an opening was made in the bladder; the ureter, freed from its connection, passed through the bladder opening and was fixed by sutures. In a fortnight the patient was up, with a perfectly acting bladder.

Mackemodt was of opinion that such a mode of treatment as that carried out in the case described was far preferable to the one more usually followed in such cases, viz., extirpation of the corresponding kidney. So long as local treatment could be made successful, extirpation of a healthy kidney would not be justifiable.

L. N.

INFLAMMATION OF THE URETERS IN THE FEMALE. By
MATHEW D. MANN. *Annals of Gynæc.*, vii., p. 663 ;
and *American Medico-Surgical Bulletin*.

The author writes to call attention to a disease which is frequently overlooked, or mistaken for other diseases, but which is very common. The ureters can be recognised by palpation, especially when enlarged by disease, as two cords running from a point a little in front of the uterus, and a little to one side of the median line, directed at first toward the sides of the pelvis, and then curving somewhat sharply backward until they go beyond our reach, near the spines of the ischium; in front their ends are separated by an inch or more of space.

The commonest disease of the ureters is inflammation, of which the author has learned to recognise seven causes :—

- (1) Injuries during childbirth.
- (2) Previous disease of the bladder.
- (3) Gonorrhœa.
- (4) Suppuration of the pelvis of the kidney.
- (5) Pelvic disease, such as pelvic peritonitis, cellulitis, and tumours.

(6) Abnormal conditions of the urine.

(7) Tuberculosis.

(1) *Injuries during Childbirth.*—The symptoms are chill, high fever, pelvic pain, and vesical irritation coming on several days after labour, usually in primiparæ; examination shows nothing wrong with uterus, tubes, or pelvic peritoneum, but pressure over the lower end of one of the ureters shows great tenderness. After the third or fourth day, examination of the urine shows acid reaction with large amount of pus and some blood, no mucus or evidence of bladder trouble; there is some tenderness over the kidney on the affected side.

Sometimes the symptoms are less severe, but there is vesical irritability lasting a long time. The author's cases did well under large doses of alkalies and alkaline mineral waters.

(2) Fissure of the bladder neck may exist; cystitis, except in the gonorrhœal form, either does not extend to the ureters or is a late symptom.

(3) It is possible that many of the failures to obtain entire relief from pain after cœliotomy for pus tubes are due to coincident but unrecognised gonorrhœal ureteritis.

(4) Suppuration of the pelvis of the kidney, and of the kidney itself, is more often due to previous disease of the ureters.

(5) Extension of peri-uterine inflammation to the ureters is not credited. If the two exist, they are due to a common source, such as gonorrhœa. They are coincident but independent.

Peripheral irritation of the sexual organs, through its inhibitory influence on the nerve centres, may cause ureteritis.

(6) An acid urine, the condition known as lithæmia, is the most frequent cause of ureteritis.

(7) Tuberculosis is not uncommon, but rarely exists without the presence of the same disease in the kidney.

Pathology.— Sometimes the tube is greatly thickened, even as large as a lead pencil or larger. Usually both ureters are involved, but the left more commonly than the right. There may be a localised congestion, granulation, or ulceration around the mouth of one or both ureters on the bladder wall. Contracted or granular kidney is a frequent sequel, and Bright's disease may come to end the scene.

Symptoms.— The most constant is frequent micturition, which may even become continuous. There is pain over one or both ureters; it is aggravated by the approach of the menses. There may also be present symptoms of cystitis, or of disease of the kidney. In lithæmic patients there may be bilious attacks and sick headaches, gastric and intestinal dyspepsias are common, and there is often a history of inherited rheumatism or gout. Great depression of spirits is not an uncommon symptom.

Sometimes the disease is intermittent, but usually it is chronic, lasting for years. The pain is sometimes steady; again it is spasmodic. It may be stationary over the ovarian region, or it may be felt over the hip and down through the iliac fossa. In some cases the pain is intensified by walking; others are unable to ride in any vehicle, the jar movement causing much pain.

Method of Pelvic Palpation.— The finger is carried along the anterior vaginal wall, upward and outward, near the brim of the pelvis to one side of the uterus. It is then passed forward, stroking the pelvic wall and carefully feeling for a cord-like body under it. Sometimes a bimanual examination will greatly aid in discovering the ureters. Anybody who has once distinguished an enlarged ureter will be astonished at the ease with which it can be done.

Tenderness on pressure is usually present, often to an extreme degree, with a feeling of desire to urinate or touching the ureters. In some women it is said by Tourneur to be possible to palpate the enlarged and thickened ureters

through the abdominal wall. It is to be found at the superior strait at one-third of the distance which separates the anterior superior spines of the iliac.

Urine.—It is scanty, even as low as six ounces in twenty-four hours, always extremely acid, unless cystitis co-exist, and often of low specific gravity, 1010-1015. Peculiar types of epithelium are unreliable. Urine containing pus without mucus, and acid in reaction is a sure indication of inflammation of the urinary tract above the bladder, excluding, of course, an abscess opening into the bladder.

Prognosis.—If the trouble has not lasted very long, and the ureters are not much thickened or enlarged, the prognosis is good, although the time necessary for a cure will be considerable.

Treatment.—(1) Constitutional ; (2) local (*a*) through the urine, (*b*) direct local treatment ; (3) surgical.

(1) *Constitutional.*—This is of the utmost importance, and involves securing the best possible environment, out-door air, &c. Sugars and starches are often poorly digested, and are to be avoided ; wine and beer are interdicted. Hot-air bath is useful when the kidneys are not acting freely. Water is to be drunk freely, and alkalies should be taken in sufficient quantity to keep the urine neutral or alkaline. Liq. potass. gtt. v. or more is recommended, also alkaline salts. Exclusive milk diet may entirely cure the patient when other means fail.

(2) *Local*—(*a*) *Through the Urine.*—Copaiba and especially oil of sandalwood are useful when there is a great deal of pus in the urine. Salol, hydronaphthol, and turpentine may be tried, but are not so clearly useful ; benzoic acid is useful where there is cystitis. (*b*) *Direct Local Treatment.*—By Kelly's methods and instruments the ureters can be reached directly and treated by solutions of boric acid, nitrate of silver, &c. The results of this new treatment are not yet established.

(3) *Surgical Treatment.*—Not much has yet been done for the surgical treatment of diseased ureters. Sometimes

the continuous *ardor urinæ* is relieved by establishing a vesico-vaginal fistula.

If the bladder is contracted and irritable, it should be distended with weak solutions of salt, boric acid, &c. If there be granulations around the ureteric openings, congested areas, or ulcerations, they can be treated topically by the aid of Kelly's speculum. The author has recently had a brilliant success in the local treatment of such a case.

From what has been said it will be seen that much more research is necessary before we can arrive at a truly satisfactory treatment of this affection. If, however, the author succeeds in arousing the attention of the profession to its existence, and to the necessity of recognising and treating it, he thinks the beginning of the end will have been reached.

L. N.

UTERINE DRAINAGE BY CATGUT.

Eleventh International Medical Congress, Rome, 1894

Dr. Schmeltz, of Nice, maintained that a certain number of diseases of the uterus and its adnexa could be cured by catgut drainage, without having recourse to bloody operations. In 1883 Schwartz proposed drainage by spun-glass fibres and caoutchouc, but the former was hardly practicable, and the latter necessitated a previous dilatation of the os. The catgut drainage proposed by the author was, on the contrary, easy of application, not requiring dilatation of the uterus, and perfectly aseptic. The presence of the drain does not in the least interfere with the proper performance of the menstrual functions, and it seldom causes pain or inconvenience of any sort. The operator had employed this method successfully in metritis, salpingitis, uterine deviation, amenorrhœa and dysmenorrhœa. The only contra-indication is acute inflammation of the womb or its adnexa, and acute perimetritis. In such cases the presence of the drain might increase the existing inflammation.

L. N.

OVARIAN PREGNANCY. (*Bibliothek for Læger*, H. 1, 1894.)

A. Larsen observed the case of a woman, 23 years old pregnant for the first time, who felt pain in the abdomen in the third month and the movements of the foetus in the fifth month. Toward the normal end of gestation pain set in, blood was evacuated *per vaginam*, and the movements of the foetus ceased. No delivery took place. More than a year after the beginning of pregnancy the woman presented herself with a tumour in the abdomen, and complained of pain and bearing-down sensation. Laparotomy was performed, and a round, smooth tumour was discovered near the uterus and removed. The uterus itself was of normal size and shape. The tumour consisted of a sac containing a male foetus in a state of maceration and compression. In the wall of the sac were groups of follicles with evident *membrana granulosa* and in some of them ovula were found.

L. N.

SENILE ENDOMETRITIS. (SKENE, *American Journal of Obstetrics*, pp. 500, April, 1894.)

If confined to cervix, astringent douches, *e.g.*, borax or sulphate of zinc; if high up, iodoform freely applied to interior of uterus; if displacements or stricture of cervix be present (frequently the case), correction of displacement, gradual dilatation and drainage of stricture. Rapid dilatation contra-indicated, owing to the fact that in age the uterus is easily torn.

L. N.

DERMOID CONTAINING OVARIAN MAMMA.

Medical Press, November, 1893.

Mr. Bland Sutton removed a dermoid tumour from a woman aged 26, in which he found a well-formed ovarian mamma about the size of a Tangerine orange with a nipple, no areola, but containing glandular tissue, the ducts of which traversed the nipple. He considered the case a rare one.

H. S.

FIBRO-MYOMA UTERI STATISTICS.

Gazette des Hopitaux and Quarterly Journal, Jan., 1894.

Dr. Terrillon says since 1880 he has examined and followed up 235 cases of fibroma. Of this number 122 have been operated upon; 80 abdominal hysterectomies, in 45 of which the pedicle was treated intra-peritoneally, and in 35 it was fixed extra-peritoneally. In 30 cases the ovaries were removed with no death. He had 12 vaginal hysterectomies with 2 deaths. He states that in none of the cases where the ovaries were removed was there any diminution of the tumour; this is rather contrary to what has been observed in this country. Of those not operated on he considers rest with an abdominal belt the best treatment. Though some cases are benefited by electricity, he has never seen, out of 90 cases which he has examined, any diminution in bulk. He believes that neither electricity, mineral waters, nor the menopause even has any effect in lessening the size of fibromata, but that they may grow up to 60 years of age and even beyond.

H. S.

SARCOMA OF THE UTERUS IN A WOMAN AGED 21.

Quarterly Medical Journal, April, 1894.

Dr. Laver and G. Wilkinson, M.B., relate a case. The patient had a child three years previously, and had menstruated during lactation. Nearly two years afterwards she again became pregnant but miscarried at the third month. For five months she had a coloured discharge, then a severe flooding, followed by profuse menorrhagia. The uterus was curetted; small, round-celled sarcoma was discovered, and vaginal hysterectomy was performed on October 4. She recovered from the operation, the chart showing the type of pyæmia, though there were no metastatic abscesses; she, however, went home, and died December 15, of the recurrent disease in the lungs.

H. S.

NOTE ON THE EFFECT OF CASTRATION ON WOMEN BY
W. GOODELL, M.D. *Cincinnati Lancet-Clinic*, January 20.

Dr. Goodell used to hold that no change took place in the sexual sense of women, but his later experience had taught

him that within two years of the operation there was loss of sexual desire. He considers that more deaths occur from the operation than from the disease itself. He regards the woman with only one appendage diseased as in greater danger than the woman with both so, as there is the danger from possible impregnation. He thinks that it would be sufficient in many cases merely to break down the adhesions and not remove the ovaries, and that a portion of an ovary is better than none at all. We cannot entirely agree with Dr. Goodell in his conclusions with regard to the sexual appetite ; it may be true in some cases, but it is by no means correct in all.

H. S.

THREE CASES ILLUSTRATIVE OF HERMAN FREUND'S LAW
OF PEDICLE TORSION IN OVARIAN TUMOURS. By A.
R. SIMPSON. *Edin. Med. Journ.*, August, 1894, p. 97.

The first case was that of a dermoid cyst in a girl 20 years of age. It grew from the right ovary, and had its pedicle twisted to the left. The second was a simple cyst in a woman who had three months previously passed through her sixth pregnancy. She noticed that she had been unusually large while carrying the child, and after delivery did not resume her original girth. At the time of operation the abdomen was as prominent as at full term pregnancy. The tumour arose from the left ovary and the pedicle was twisted to the right. The third case was parovarian cyst of the left ovary, with its pedicle twisted to the right. It was complicated with pregnancy at three months. The tumour was removed, and pregnancy continued uninterrupted.

In regard to the causes of the pedicle torsion, the author accepts the theory as expounded by Freund. Freund has shown that in the progress of growth ovarian tumours undergo changes of position at two different stages. In the first, whilst they are pelvic, their tendency is to grow downward behind the uterus, and to keep their pedicle on their anterior aspect. In the second stage, when they rise out of the pelvis, they tend to fall forward toward the abdominal

wall, and their pedicle is then found on their posterior aspect. Professor Goodsir used to teach that there was a law of spirality guiding the growth of all organisms. This idea has been worked out by Professor Emil Fischer, of Strassburg, who maintains that axial torsion is a function of the living cell; that the growth of organisms takes place under constant spiral axial torsion, and that bi-lateral symmetrical organisms possess on the right side of the body sinistro-spiral growth-torsions, and on the left dextro-spiral growth-torsions, and he indicates that this holds good with regard to ovaries, ovarian ligaments, tubes, and broad ligaments. Now, H. Freund has made observations which confirm Fischer's thesis; and pushing his investigations into the condition of the pedicle of ovarian tumours, comes to the conclusion that in all cases where an ovarian tumour reaches the second stage, and has no obstacle presented to its usual progress, there will be found a torsion of the pedicle to the left in right-sided, and to the right in left-sided tumours. The usual rotation may be prevented or counteracted by adhesions, by the presence of other tumours, or by undue tension of the abdominal walls. The rotation may represent only half a turn or a full turn, and in some cases may be oftener twisted without giving rise to distinct disturbance, though he finds that the cases of exaggerated torsion occur, in the nearly 200 cases that formed the subject of his research, in about the proportion of 8 per cent., which is given by Olshausen as the percentage of pedicle torsions generally in ovariectomy. Whatever may lead in individual cases to the exaggerated torsions, Freund seems to have fairly established the law that right ovarian and parovarian tumours have normally a sinistro-spiral twist of the pedicle, and that tumours of the left side have a dextro-spiral twist. The cases related are accordant with Freund's law.

In regard to the origin of dermoids, the author mentions the two most satisfactory theories: first, that they arise from perverted development of an ovum or primordial germ cell; second, that they are due to the inclusion of cutaneous

elements that have become ensnared among the deeper tissues during the development of the embryo.

In commenting on the last case, the author was of the opinion that all obstetricians were coming to accept the conclusion that all cases of ovarian tumour complicating pregnancy had better be removed promptly.

L. N.

THE DANGERS OF INTRA-UTERINE INJECTIONS OF GLYCERINE. *Centralblatt f. Gynäkologie*, April 21, 1894.

Dr. I. Pfannenstiel warns against employing intra-uterine injections of glycerine to bring on uterine contractions, for in several cases it has produced a nephritis. In one patient with normal urine after injection of 100 grammes of glycerine she was seized with elevation of temperature, slow pulse, cyanosis, hæmoglobinuria and nephritis; the symptoms disappeared in two days. He refers to a similar case reported by Mueller, and states that the very same symptoms, especially hæmoglobinuria and albuminuria, have been observed after injection of the drug subcutaneously in rabbits and dogs. Quite analogous conditions have been observed after injection of a solution of iodoform mixture and glycerine; in a child it ended fatally. The necropsy revealed an acute parenchymatous nephritis, infarcts of methemoglobinuria in the kidneys, œdema of the lungs and a fatty liver. Hence he warns against this measure.

L. N.

THE INCISION IN ABDOMINAL SURGERY—METHODS AND RESULTS. CARSTENS. *American Journal of Obstetrics*, October, 1894, p. 503.

The author summarised as follows :—

(1) With a small, narrow-bladed, sharp knife make a clean incision through the skin of the necessary length, and with another sweep or two cut through the linea alba, muscle, &c. Lift the peritoneum with your fingers, open it and enlarge the incision. The use of the forceps to lift the tissues or the grooved director is unnecessary.

(2) In closing the abdominal incision use animal ligature, kangaroo tendon and catgut. First carefully bring together the peritoneum in a running stitch, then the transversalis fascia, and the rectus if the incision is through this muscle. Then carefully bring together, edge to edge, the tendinous insertion of the oblique muscles. The fat and loose cellular tissue above, can be brought together in one or two tiers, according to thickness. Bring the skin together carefully with Marcy's cobbler stitch, thus burying all your sutures.

(3) Then seal with collodion, and if everything connected with the operation has been carefully aseptic, absolute primary union will take place, and the different layers of the abdominal wall will have been brought together as near as possible as they were in the first place, and no hernia will result.

(4) In cases of extensive umbilical, ventral, or other hernias, it is best to bring the peritoneum together with an over-and-over stitch of kangaroo tendon or catgut; to make a flap-splitting operation of the ring, which is brought together with silk-worm gut, or silver wires which are buried, and then the fat and skin are united with the buried animal suture.

L. N.

OBSTETRICAL.

DE L'AVORTMENT OU DE L'ACCOUCHEMENT PRÉMATURE DANS LA TUBERCULOSE PULMONAIRE. (ABORTION OR PREMATURE LABOUR IN CASES AFFECTED WITH PULMONARY TUBERCULOSIS.) P. A. LOP, Chef de Clinique d'Accouchements, Marseille, *Archiv. de Tocologie et de Gynécologie*, August, 1894, p. 575.

The question of inducing labour in women affected with pulmonary tuberculosis has been frequently raised by accoucheurs, especially by Leopold and English authors;¹

¹ We are unable to verify the statement regarding English writers.—ED. B. G. J.

the latter even believe that amelioration is certain after delivery. As soon as it is possible to obtain a viable fœtus it is thought proper to induce labour. Unfortunately it is difficult to accept this; and very frequently the emptying of the uterus does not effect anything more than a very temporary improvement. The observations in the following paper are strongly in support of this latter opinion. We would not absolutely reject induced labour in cases of pulmonary tuberculosis, but we believe one ought not to be hopeful that by this means a favourable influence can be exercised on the progress of bacillary infection. One ought to know how to select cases—induced labour practised on a phthisical patient during the stage of excavation cannot produce more than very slight, if any, arrest of the progress of the fatal pulmonary lesions, while the same operation practised at a stage relatively slightly advanced during which there are neither signs of congestion or hæmoptysis may bring about favourable results.

In advanced cases if delivery is of value to any one, it is only to the child, not the mother. This is the only justifiable reason. It may be adopted if one has the necessary knowledge and the appliances for the artificial raising of the premature child.

Case.—Patient, aged 40, XI.-para, eighth month of pregnancy, subject of chronic pulmonary tuberculosis, bacilli in the sputum, grave general signs, severe dyspnœa.

On April 10, at 9 a.m., a gum elastic sound was introduced within the uterus (method of Krause); antiseptic precautions were observed.

On April 11, at 9.15 a.m., the membranes were ruptured and a foot delivery effected—child living, placed in a couveuse. Child died the same evening at 6 p.m. Autopsy showed nothing of importance.

Puerperal History.—At first favourable; dyspnœa ameliorated.

April 14.—Transferred to the Medical Ward, where she died on April 26.

In this case it is probable that induction of labour retarded the fatal result for some days. The case was not a favourable one, the general condition was bad, the woman an eleventh-para, worn out by work and her many labours.

The question of premature labour or abortion in tuberculosis has still to be decided. Accoucheurs are divided into two camps, those who would intervene at the very beginning of gestation, and those who wait until a viable fœtus can be obtained. During the last ten years the question has not been decided one way or the other. For there are a number of accoucheurs who hold that "pregnancy arrests the progress of tuberculosis, and that consequently it is not detrimental to tuberculous women." This favourable influence of pregnancy is due to an error of interpretation of Cullen's. "Pregnancy," said Cullen, "has often retarded the progress of consumption in women, it is not usually until after delivery that the symptoms again reappear with severity and cause death." This view was adopted by Bordeu, Brioude, Bugès, Andral and others. The last author says: "I have been able to satisfy myself that in the great majority of these cases the symptoms of phthisis are arrested and remain stationary during the pregnancy. Gubler and Fonssagrives also believe in the salutary influence of pregnancy. In 1860 Grisolle published twenty-seven cases in which tuberculosis became aggravated by pregnancy. Mauriceau had formerly demonstrated the harmful action of pregnancy, but his opinions were not accepted by his contemporaries. Louis in his publications on phthisis, Stoltz and Hervieux in their works describe pregnancy as exercising a disastrous influence on the progress of phthisis. The theses of Ortéga and of Gaulard fully confirm this view, which is unanimously accepted by modern authors, physicians or accoucheurs. Among the latter Dubois expresses himself thus—"If a woman threatened with phthisis marries she may get over one confinement, a second with difficulty, never a third." One also knows the famous aphorism of Professor Peter regarding tuberculous patients. "Girl no marriage, woman no child, mother no nurse."

These propositions are much too absolute, yet they contain much truth. Pregnancy is always a troublesome complication for a tuberculous patient.

The researches of Villemin and Koch have made us acquainted with the true cause of tuberculosis; they have shown us that the tubercle bacillus has a predilection for enfeebled organisms, and is always found in the tissues where there is least vitality. Has tuberculosis, on the other hand as bad an effect on pregnancy?

In quoting the figures cited by Vinay (*Traité des Maladies de la grossesse*," p. 293, Paris, 1894), we see that of 159 women there were 138 deliveries at term, 9 premature deliveries, 11 abortions, 1 woman died undelivered at the seventh month.

The statistics of Ortéga (*Thèse de Paris*, 1876) give us :—

- | | |
|--|---|
| (a) Fifteen patients with distinct phthisis ; 20 pregnancies. | { 10 deliveries at term.
8 premature deliveries.
2 abortions. |
| (b) Eighteen women with initial symptoms of tubercle during the first half of gestation ; 20 pregnancies. ¹ | { 11 deliveries at term.
6 premature deliveries.
2 abortions. |
| (c) Seventeen women with slightly advanced phthisis ; 33 pregnancies. ¹ | { 25 deliveries at term.
3 premature deliveries.
2 abortions. |

Tuberculosis does not, therefore, vitally affect gestation, but it remains none the less a continual danger for both mother and child. As to the exciting causes of interruption of the gestation, they are, in our opinion, in every respect like those which we have published regarding smallpox (*Thèse de doctorat de Paris*, 1893, "Variole et Vaccine dans la grossesse").

Thus while we are agreed as to the reciprocal influence

¹ One pregnancy in Class (b) and three in (c) are not accounted for.
—ED. B.G.J.

between pregnancy and tuberculosis, the question arises as to the epoch at which one ought to intervene in trying to check the progress of this infection. The paper of Dr. William Duncan (*Transactions London Obstetrical Society*, vol. xxxii., p. 97, and *Semaine Medicale*, 1890) is referred to, and his opinion quoted that abortion should be induced at the beginning of gestation. The author observes that very few accoucheurs present agreed with Duncan's opinion. (With the paper before us we find that Cullingworth, Herman, Playfair, Priestley, Champneys, Matthews Duncan, Amand Routh, Leith Napier, Jameson, and Abraham Wallace, all opposed the practice from various different standpoints.) In 1886, at the Congress of the Italian Obstetrical Society, held at Rome, the question was discussed. Chiara advised induced labour after the child was viable. Pasquali went a little further, and asked if symptoms of phthisis appeared during pregnancy, should not one terminate gestation even if the child was not viable. In three cases which he had treated in this way he had obtained three improvements. Morisani agreed with Chiara not to interfere until the foetus was viable. Bompiani thought that the life of the foetus was a secondary consideration, that its existence was usually precarious, that it was predisposed by heredity to its mother's disease, and therefore one should not hesitate to sacrifice it. The mother could not but derive advantage from induced labour, still more so from abortion. Some authors do not agree with the practice of induced abortion in cases of miliary tubercle. It is not likely to be attended with benefit. With this opinion Lop agrees. Charpentier ("Traité d'Accouchements," tome i., Paris, 1889) objects to all interference. Vinay observes that with an expectant and non-intervention treatment sometimes the woman dies without being delivered, and that the child is viable. He reserves his intervention during life to cases in which the woman is attacked with tubercular meningitis with slightly-developed pulmonary lesions. Vinay holds that in these cases "the child partakes only very slightly in the maternal affection. It is sometimes

vigorous, and may be saved by speedy delivery." Lop does not accept this theory, holding that the chances of foetal contagion are the same whatever may be the site of the maternal tubercular disease.

Tarnier and Budin (*Traité des Accouchements*) apropos of induced labour in tuberculous women, wrote: "This operation has been practised by Sdehberg and Leopold. Its usefulness is doubtful in any case; it cannot do more for the mother than retard the fatal termination, and even this result is not certain." They object to all interference, and advise *post-mortem* Cæsarean section in case of the death of the mother before delivery.

Queirel's opinion (with whom Lop as his pupil naturally agrees) is that intervention should be practised in each instance, when, in conséquence of the effect of pregnancy one can recognise an aggravation of the general symptoms in a tuberculous patient. In accordance with the duration of the pregnancy one should induce abortion or labour; one must be guided by the general and localised symptoms as to the most opportune time for interference.

L. N.

TUBERCULOSE A MARCHÉ RAPIDE PENDANT LA GROSSESSE;
SON INFLUENCE SUR LA MÈRE ET L'ŒUF. (THE
RAPID PROGRESS OF TUBERCULOSIS DURING PREG-
NANCY, ITS INFLUENCE ON MOTHER AND CHILD.)
Dr. S. REMY, *Archiv. de Tocologie et de Gynecologie*,
September, 1894, p. 661.

Dr. Remy (Prof. agrégé of Obstetrics, Nancy) contributes an interesting clinical paper on the above subject. In his introductory remarks, Remy writes: "The abatement of the evolution of tubercle during the first months of pregnancy, the very usual increase of the disease in consequence of the constitutional changes of gestation, the explosion caused by the puerperal state, and especially by nursing the child have been long recognised by all authors who have considered this question." Attention is directed to one class of cases, viz.,

tuberculous women in whom the disease evolves very rapidly in consequence of an acute mal-nutrition, and speedily by a resulting continued fever, it may be from an intolerance of food which causes it to be rejected, or may be from a profound distaste to all nourishment ; possibly the pain arising from laryngeal phthisis may be the reason. The patients waste rapidly, and fall into a condition of extreme weakness. The tubercular lesions remain practically localised. One is inclined to say of these patients that there are more phthical than tubercular.

Nine months of pregnancy are a long time for such patients, and the doctor anxiously considers—Can such a patient wait until the completion of pregnancy, or will death come before delivery? The disease may arise in women who have previously shown symptoms of tubercle, but who seemed cured, and may be re-awakened in consequence of a new pregnancy. We find other patients in what is called delicate health, others enjoy habitual good health.

Of the five patients, four had been affected with laryngeal phthisis. From gastric troubles, difficulty in deglutition, wasting and weakness, they deteriorated rapidly, and at the end of some months the thinness, the weakness, and the fever left no hope that we would see them reach full term pregnancy. Were they to die undelivered?

Death during pregnancy is, however, exceptional. In the case of acute diseases, whether due to pregnancy or not, the gravity of the symptoms—the blood intoxication, hæmoptysis,—sometimes causes death so quickly that the maternal organism has not time to expel the product of conception. This we have seen. But in chronic cases and even in some sub-acute, if there is no unexpected incident causing death, it may be suddenly or in some hours, as for example, from suffocation, pulmonary œdema, or hæmoptysis occurring in cardiac or pulmonary affections, the maternal organism prematurely expels its contents by a sort of natural precaution, as the tree which withers lets fall its fruit. This premature expulsion is accomplished without shock, without warning, as easily as a full time accouchement.

On examining the placenta Remy finds that its uterine surface is whitish instead of dark red, as in the normal placenta. This was evidently due to degeneration of the decidual cells (it is not stated if any precise pathological and microscopical examination confirmed this view).

The five observations reported seem to show that in a case in which weakness during pregnancy becomes complicated by rapidly developing tuberculosis (only apparent in the beginning of or during the pregnancy) of such a degree that death seems inevitable before the full term, the organism may still accomplish a spontaneous premature confinement, provided that neither dyspnoea nor congestive affections due to the condition of the respiratory organs hastens the end.

These cases ought to be considered by those authors who seek to determine that in such conditions either induced abortion or premature labour can be of service to pregnant women who are the subjects of tuberculosis. Of the five patients three who had marked laryngeal phthisis died about the tenth or twelfth day after confinement, a fourth on the twentieth day; the other patient, whose lungs were affected, one month after her premature delivery.

ABSTRACT OF REMY'S CASES.

I.—Laryngeal and Pulmonary Tuberculosis. Extreme Exhaustion. Premature Accouchement, and Death.

Madame L. suffered during her pregnancy from symptoms of tubercle affecting the mouth, ulceration of the epiglottis, and a pulmonary cavity in her left lung. Alimentation was almost impossible. There were symptoms of suffocation, spontaneous labour on September 4. Child of eight months, small but lively, sent to a nurse. Nothing noteworthy in the puerperal history, but the tubercular form continued. Very great weakness. Death ten days after delivery.

II.—Laryngeal Tuberculosis. Rapid Wasting. Premature Delivery. Death.

Madame B., II.-para, first child well and now alive. At

the commencement of the second pregnancy she was seized with laryngeal cough, hoarseness, and laryngeal pain. Rapid weakness, persistence of pain and cough, diagnosis of incipient laryngeal phthisis, nourishment difficult, fever began, lung lesions evident. No hope of terminating pregnancy at term. Spontaneous delivery about the eighth month; child born alive and sent to a wet nurse. Mother died twenty days after her premature delivery.

III.—Laryngeal Phthisis. Premature Delivery. Death of Mother.

Madame X., I.-para, affected with laryngeal tuberculosis during her pregnancy. Patient very thin; could not take food without causing great pain. Labour about beginning of seventh month. Cervix rigid; was incised, application of forceps to the breach, slipping of instruments, foot seized, delivery effected. Child breathed and sighed, but soon died. The mother died within a fortnight after from her tuberculosis.

IV.—Laryngeal Phthisis. Premature Delivery. Death of Mother.

Madame W., aged 29, I.-para, several years married, previous apparent good health. After two months' amenorrhœa; came to have advice for a laryngitis of suspicious character. Painful cough and hoarseness of the voice suggested tuberculosis. In addition she had gastric dyspepsia of pregnancy which made nourishment difficult and insufficient. After the first four months the dyspepsia improved, but at the sixth month the stomach again became very irritable from several causes. The lungs showed signs of tuberculosis. The wasting was progressive, the fever continued. Professor Bernheim confirmed the grave prognosis. At about the seventh month uterine pains, rupture of membranes, labour commenced. Child feeble, lived only a few hours. Post-partum hæmorrhage. Puerperium nothing of note, but the tubercular fever was very marked, and the pains in the throat so severe during deglutition that only peptonised fluids could be given. Progressive weakness, delirium during the ninth and tenth days, death on eleventh day after confinement.

V.—Pulmonary Tuberculosis of Rapid Development. Premature Delivery. Death.

Mde. Sch., nursing her first child, aged about 4 months, came to consult the author for a very intermittent cough. Signs of commencing tuberculosis at the right apex. Nursing discontinued. All went well; health improved. At beginning of 1894 she returned pregnant. Last menstruation end of January. Cough much increased; great gastric irritability. Vomiting, wasting and increased signs of tuberculosis in apex of right lung. She speedily became worse. On July 30 the membranes ruptured. Speedy delivery of a six months' child, which lived thirty-six hours. Puerperium nothing abnormal; a slight improvement, except that the pulse always continued at 120. Towards the middle of August the symptoms became worse, patient could not take food, weakness became excessive, and she died on August 30, one month subsequent to her premature confinement.

We have given full accounts of the foregoing papers, knowing that the subject must be of wide general interest. We are not prepared to accept Queirel and Lop's practice without considerable reservation. It will be noticed that the single case on which Lop's paper is founded had no better result than the cases recorded by Remy in which delivery was spontaneous in four out of five.

From a considerable experience of nearly twenty years, we have formed certain conclusions which we very briefly submit:—

(1) Acute tuberculosis exercises a most dangerous influence on pregnant women; whether the pregnancy has occurred during the existence of marked pulmonary affection, or has from its interference with digestion and the general systemic condition accentuated latent pathological factors.

(2) Usually all women affected with chronic or sub-acute pulmonary phthisis are harmfully influenced by pregnancy; but there are some exceptional instances in which the preg-

nancy actually seems to increase the general well-being of the patient and to arrest the further progress of the pulmonary disease. These latter cases are not usually attended with distinct bacillary sputa, and may possibly be etiologically different.

(3) In tubercular patients the mal-influence of early pregnancy is in great measure due to the reflex gastric troubles, due to uterine irritation, which interfere with nutrition ; in the latter months, the necessity for the support of the foetal as well as the maternal organism causes marked weakness and wasting. After labour the incident shock and hæmorrhage, and the lack of the former stimulant equipose of gestation effect a serious change on the maternal system.

(4) If interference with pregnancy complicated by tuberculosis is ever justifiable, it ought to be effected at the very beginning of gestation. The difficulty of agreeing to this is increased by the clinical fact that there is frequently an amelioration of the tubercular symptoms probably due to the increased appetite and assimilation of food which often attends early pregnancy. Yet in some cases of spontaneous abortion, at the second or third month, which we have met with in tubercular women, the pulmonary symptoms progressed rapidly after miscarriage, and death resulted.

(5) Tubercular women are during the early stages of the disease fully as fertile as healthy women. Even in advanced tuberculosis, when there is suppression of menstruation, impregnation has not infrequently happened.

(6) The children of tubercular women may be born seemingly strong and healthy. As a rule, depending on the degree of the maternal disease, general and local, the child eventually develops bad health. Some continue healthy.

(7) Each individual case must be considered *per se*. Due regard must be paid to (a) the exact extent of the pulmonary and other tubercular local conditions ; (b) the period of pregnancy ; (c) the general state of health and the patient's station in life.

(8) In event of a premature termination to the pregnancy

being deemed necessary in a woman suffering from marked tuberculosis, the earlier this is effected the better. After the third month it never seems to have been of benefit.

(9) If the mother dies before delivery has taken place, and the child is viable, immediate *post-mortem* Cæsarean section may be performed. Considering what we now know of tuberculosis of the uterus and annexes it is doubtful if the uterus and its contents will have escaped infection in an advanced and acute tuberculosis. We know that genital tuberculosis may occur at any age, and in general miliary tubercle it must be very exceptional to find the pregnant uterus free. Lehmann (*Deutsch. Med. Wochenschrift*) reported a case of *post-mortem* Cæsarean section performed on a woman who died from acute miliary tuberculosis. Five minutes after death an eight months' child was removed. It had apparently been dead a very short time. Examination of the placenta showed a number of gray tubercles containing bacilli. There is no mention of the condition of the uterus, but presumably it must also have been tubercular. The child's organs did not shew tubercles or bacilli. Still the *possibility* of foetal infection has been clearly established, not only by admitted clinical facts, but by the conclusive experiments of Gärtner (*Zeit. für Hygiene u. Infect. Krank.*, p. 101), who inoculated ten pregnant rabbits, at periods varying from four to seventeen days before parturition with intravenous injections of tubercle bacilli. Of the 51 young, 5 (*i.e.*, 10 per cent.) contained the tubercle bacillus at birth. The entire litter was never found to be tuberculous in any one case, but one in two were found to contain the germ.

We feel sure that many of our readers have valuable experiences which they might adduce on this question. It is one affecting all classes of medical men, physicians, surgeons and family practitioners. We shall, therefore, be very glad to receive any records to form the basis of a further and more exhaustive enquiry than has yet been made since the recent pathology of tuberculosis and the doctrine of "mixed infections" have been made known.

L. N.

INTERMITTENT FEVER IN CHILDBED.

Rev. Med. Chir. des Maladies des Femmes, June, 1894.

In an interesting communication to the Gynæcological and Obstetrical Society of Moscow, M. Solowieff relates the case of a woman suddenly attacked by an access of intense fever at the end of her pregnancy, of another in whom the fever came on a fortnight after delivery, and of a third who was affected about the middle of her term. In all cases treatment with quinine and opium, associated in the last instance with arsenic, was effective. Dr. Solowieff concludes that though intermittent fever is relatively rare during pregnancy and puerperity it may be the cause of abortion, premature delivery or in some cases of the death of the foetus, or, in those recently delivered, may interfere with the secretion of the milk and the involution of the uterus. He attaches great importance to the diagnosis of this fever from other affections of childbed, especially from puerperal septicæmia, and while recommending that where there is any tendency to abortion some preparation of opium should be added to the usual treatment by quinine, he points out that in nursing women suffering from paludal diarrhœa opium should not form part of the treatment, or lactation must be abandoned, and suggests treatment by tannate of quinine. He holds that arsenic in small doses is good for all cases of puerperal asthenia. Dr. Solowieff maintained his conclusions in spite of an objection by Dr. Alexandroff that, in the absence of microscopical examination of the blood of his patients, they were not definitive.

J. J. M.

THE RECENT LITERATURE OF SYMPHYSIOTOMY.

DE L'AGRANDISSEMENT MOMENTANÉ DU BASSIN (TEMPORARY ENLARGEMENT OF THE PELVIS), par ADOLPHE PINARD. Report read at the International Congress, Rome, 1894.

The author relates thirty-eight cases of operative enlargement of the pelvis, all of which were done in the Clinique

Bandelocque; thirty-six were symphysiotomies, one pubiotomy, and one ischio-pubiotomy, with a maternal mortality of two, and infantile mortality of four. One of the mothers died on the ninth day (the operation wound having healed *per primam*) of septicæmia, which seemed to be caused otherwise than by the operation. The other case died on the seventh day from intestinal obstruction.

We should particularly direct our readers to Part B. of the monograph, which gives the researches of Prof. Farabœuf as to the anatomy and physiology of the sacro-iliac ligaments and the result of symphysiotomy. This part is well illustrated by diagrams and will be profitably studied by all who take a practical interest in this old and now revived operation.

The anatomy of the ante- and retro-symphysic region is well illustrated by woodcuts, and the directions are clear how to avoid hæmorrhage. Space only permits us to give the author's conclusions.

(1) The aseptic operation is not dangerous.

(2) To be of use it must be complete, the separation of the symphysic ends must be in proportion to the narrowing of the pelvis, as pointed out by the diagrams of Farabœuf.

(3) The operation is only admissible where a separation of 7 cm. of the symphysic ends will allow the head to pass, a greater separation endangering the soft parts. In such cases Cæsarean section will be required.

(4) In oblique pelvis with synostosis ischio-pubiotomy is indicated.

(5) Where the coccyx is ankylosed this is to be remedied.

His general conclusions are that symphysiotomy will for ever prescribe embryotomy, the waiting for the death of the fœtus, and will drive out of practice artificial premature labour and all attempts to get a head through osseous obstacles which the uterine contractions cannot overcome.

The good results hitherto attained by Pinard and his colleagues naturally make him somewhat sanguine. If other cases should turn out as well, and especially if the after effects

of the operation should continue to be favourable after years, the operation will have a great future. But we cannot share Prof. Pinard's opinion that it is so easy and free from danger that it may be done in general practice.

DAUERERFOLGE DER SYMPHYSIOTOMIEN (PERMANENT RESULTS OF SYMPHYSIOTOMY), by Dr. R. BRAUN VON FERNWALD. *Centralbl. f. Gynækol.*, 1894, No. 37.

Of the twelve cases which were operated upon in Prof. Braun's Clinique, four ended fatally from septicæmia, all these latter cases having possibly been tainted before coming to the hospital. The remaining cases were examined again a year after the operation; first, to ask the patients if they could walk and work as well as before the operation; secondly, to judge of the gait objectively; and thirdly, to examine the gaping and mobility of the symphysis and the mobility of the ileo-sacral ligaments.

The subjective symptoms were in all cases good, whether wire suture for the bone (three cases), or periosteal sutures were used, only in two cases were there pains on getting up or lifting heavy burdens. The gait was in all cases good. Mobility at the symphysis in two cases might have been due to subsequent pregnancies.

ENDERFOLGE DER SYMPHYSIOTOMIE (RESULTS OF SYMPHYSIOTOMY). DR. v. WOERZ. *Centralbl.* No. 36.

Dr. v. Woerz gives the details of ten cases from Prof. Schauta's Clinique. All recovered well except one case, which died on eleventh day, from septicæmia. All cases had wire suturing of the symphysis, and in all, except two where the wire suturing was not done exactly, perfect union took place after a few weeks. Prof. Schauta therefore thinks this ought to be done in all cases, though it is not denied that without it a good union may take place after a much longer time.

Another case is reported in the same number of the *Cen-*

tralbl., operated upon by *Dr. F. Schwarz* in Fünfskirchen with perfect success. Only silk sutures were used for the soft parts. The gait on the twentieth day was shaky, but good after five weeks from the day of operating. In all five cases were operated on by him at his hospital with the same result.

Max Bensinger (*Centralbl.*, 7, 1894), had a perfectly successful case without the wire suture.

Burkhardt, ueber Schamfugenschitt (symphysiotomy), publishes three successful cases from Prof. Fehling's Clinique (*Korrespond. Schweiz aerzte*, 1893).

SYMPHYSIOTOMY WITHOUT BONE SUTURE, OR ANY OTHER SUTURES, &C., by *Dr. BUSSEMAKER*, *Centralbl.*, No. 37, 1894.

The case was operated on by Prof. Pagenstecher, of Elberfeld. The wound was simply dressed with antiseptics and healed in about a month. After two months the ends of the symphysis could not be moved. It therefore seems proved that an efficient bone suture hastens the perfect reunion of the cut symphysis, but that this will also take place later without it, or a fibrous union results answering all practical purposes. The question of bone sutures or none was discussed at the meeting of the Vienna Geburtshilf Gynækol. Gesellschaft, June 14, 1894.

UEBER DIE SYMPHYSIOTOMY UND IHRE INDICATIONS STELLUNG (SYMPHYSIOTOMY AND THE INDICATIONS FOR IT), by Prof. LEOPOLD, *Centralbl. f. Gyn.*, No. 19, 1894.

We purposely notice last the excellent and sober report read at the Congress in Rome. It is intended to warn us against the too frequent adoption of the operation in cases in which other well tried operations should still be resorted to. We can here only give his conclusions, referring those desirous of more information to the original. (1) Symphysiotomy is not to be performed in primiparæ if possible.

(2) Down to 7 cm. of conjugate diameter in multiparæ premature labour is to be induced if there is still time for doing it; if not, wait for spontaneous labour. If that does not take place, turn and extract. Where the conjugate is from $7\frac{1}{2}$ to 6 cm. forceps and turning are inadmissible, and here the choice is between Cæsarean section, perforation, or symphysiotomy. Where the child is dead or dying, perforation ought to be done, and it would be wrong to subject the mother to the risk of symphysiotomy or Cæsarean section to save the very doubtful life of the child. (3) With a conjugate from 6 to $7\frac{1}{2}$ cm., and the child living, symphysiotomy is indicated. The difficulties and dangers of such operations make it imperative to send such cases to hospitals so as to ensure success. We do not doubt that very many will agree with Leopold's recommendations. A. R.

REPORT ON SYMPHYSIOTOMY. BY PROFESSOR MORISANI
Eleventh International Medical Congress; Section of
Obstetrics and Gynæcology.

The conclusions reached in this long and instructive paper are the following:

(1) Symphysiotomy is a perfectly justifiable operation, both theoretically and clinically. Thanks to it, a well-developed foetus at term can pass through a narrow pelvis, between the limits of sixty-seven to eighty-eight millimetres.

(2) Symphysiotomy is a bad operation to perform when the foetus is dead or its vitality compromised.

(3) In general, this operation should be performed when the foetus is at term, when labour has commenced and dilatation is advanced. The combination of symphysiotomy with *accouchement prématuré* should not be accepted in the practice of to-day. In certain cases, when the foetus is dead, symphysiotomy, combined with embryotomy, may be resorted to.

(4) The *modus operandi* consists in cutting through the cartilage of the pubis with either the curved knife of Galbiati or with a strong button-pointed bistoury. The articulation

may be opened from below upward, or from above downward, providing that the subpubic ligament is divided.

(5) The operator should see that both iliac bones spread after the operation.

(6) In a pelvis measuring eighty-one millimetres or more it is well, before dividing the articulation, to make a prudent trial at extraction with forceps, without, however, going too far, in the interest of the fœtus.

(7) The use of the forceps after symphysiotomy is an aid in a great many cases, but is not indispensable.

(8) The suture of the bones and apparatus for immobilization are not necessary. It is sufficient to suture the soft parts and apply a good bandage. It is a great mistake to place any foreign body in the lips of the wound.

(9) Symphysiotomy can only be compared with embryotomy when the child is living, and merits in every respect the preference. It is destined to take the place of Cæsarean operation.

(10) The question, as to whether *accouchement prématuré* should be practised in the first week of the ninth month, or to wait until the end of pregnancy, and do symphysiotomy in the necessary cases, is to be seriously considered.

(11) Ischio-pubiotomy is entirely different from pubiotomy as practised by Aitken and Galbiati; it should bear its inventor's name and should be called *Farabeuf's operation*. It is a precious resource in cases of narrow pelves, produced by ankylosis of one of the sacro-iliac symphyses (the oval oblique pelvis of Naegelé).

(12) The pretended disastrous results of symphysiotomy have only been observed when the operation was not performed within the limits of its indication, the causes being: (a) the time of labour when it was performed; (b) the way of operating; (c) the lesions already inflicted on the genital tract; (d) the special conditions of the patients. The death of the fœtus is to be attributed to: (a) a too late intervention; (b) accidental circumstances; (c) to accessory means serving to extract the child.

L. N.

SYMPHYSIOTOMY.—EXPERIMENTAL INVESTIGATIONS ON THE ENLARGEMENT OF THE PELVIS. BY Dr. A. PLANELLAS, Professor of Gynæcology and Obstetrics at Barcelona. *Revista de Ciencias Médicas*, May, 1894. Section of Obstetrics, Congress at Rome, April, 1894.

From a series of experiments on the cadaver, the Professor concludes:—

Symphysiotomy may cause a symmetrical or asymmetrical dilatation of the pelvis, the form depending on the condition of the sacro-iliac articulations, the age of the patient, the extent to which the pubic bones are separated, and the way that separation is effected. Symmetrical dilatation is generally obtained by a separation of the pubic bones not exceeding 6 cm; asymmetrical is frequent when the separation is greater. Asymmetrical dilatation causes the pelvis to assume the obliquely oval form, and when moderate is compatible with unimportant and perfectly curable lesions in the sacro-iliac articulations. The form of dilatation of the pelvis may and should be exactly determined by inspection and external measurement. Asymmetrical dilatation may be employed in cases in which the pelvis is, or is not unsymmetrical. In the symmetrical pelvis, with less separation of the ossa innominata than in ordinary symphysiotomy, sufficient space may be obtained by effecting the separation of one side only according to the position of the fœtus. In the asymmetrical pelvis, asymmetrical amputation lies under much more precise and stringent indications: symphysiotomy in this form may then be substituted in the greater number of cases for ischio-pubiotomy, and affords the advantage of a more expeditious operation free from ulterior complications.

J. J. M.

PUERPERAL INSANITY.
Progrès Médical, April 7, 1894.

Properly speaking, the puerperal condition refers only to the functional and organic modifications which take place in women during and after parturition, before the return of the

menses, or the physiological establishment of lactation. But from the point of view of puerperal insanity this condition may be divided into periods of (1) gestation; (2) puerperal condition proper; (3) lactation. The following statistics show the relative frequency of psychosis in each of these periods: gestation, 3.1 in 100; puerperal condition proper, 9.2 in 100; lactation, 3.6 in 100. According to Marcé, insanity caused by pregnancy generally develops about the end of the fourth month, and increases progressively. Melancholia is the most frequent form. Schmidt gives the following proportions: 52.9 in 100, melancholia; 31.3 in 100, mania; 10.3 in 100, delirium syst. chron.; 5.8 in 100, gen. paralytic. Marcé observes labour seldom relieves this form of mental disease; on the contrary, the symptoms are generally aggravated, and melancholia often assumes the form of more or less violent mania. Abortion, sometimes recommended as a curative measure, should be strictly forbidden. Gestation, with these patients, is usually normal, and abortion seldom occurs spontaneously. The opinion advanced by some authors that pregnancy exerts a beneficial influence upon insanity already established is not sustained by statistics. Esquirol believes that marriage and labour usually stimulate the disease. When psychosis appears at an early period prognosis is more favourable than when it occurs toward the end of gestation, but it generally persists for several months, and relapses may be expected in subsequent pregnancies. The causes of puerperal insanity proper—that is, insanity—which develops during the period following labour before the organs of generation have resumed their normal functions, are divided by Campbell-Clark into predisposing causes and producing causes. In the first category, hereditary predisposition is the most important, as it exists in fifty-six per cent. of these cases. The complicated influences affecting a first pregnancy are next in order. Nearly half the patients suffering from this form of psychosis are primiparæ. Among producing causes infection occupies the first rank—infection of the uterus or of other organs. Campbell-Clark reports

70, of 100 cases, caused by infection ; 66 by infection of the uterus, and 4 of the kidneys. More than half these patients were under the influence of intense moral emotions ; and we realise the importance of this influence when we consider the large number of women who suffer from puerperal infection—Dr. Idanof gives the proportion as eight or nine per cent.—and the comparative rarity of puerperal insanity. The disease usually appears about the fourth or fifth day. Irritability, headache, insomnia, agitation, diminished secretion of milk, are premonitory symptoms. Fever may or may not be present, but the head is always hot. Sometimes the disease assumes a fatal form, when the tongue becomes dry and furred, the secretions cease abruptly, and the patient falls into a comatose state, which soon ends in death. Puerperal insanity proper assumes the most diverse forms : mania in 47·8 per cent. ; melancholia in 37·9 ; systematised delirium in 5·8 ; acute dementia in 5·5. Prognosis is favourable in most cases, more favourable in mania than in melancholia. Patients suffering from insanity after prolonged lactation usually present symptoms of extreme exhaustion. Prognosis is not unfavourable, but more grave than in puerperal insanity proper. Therapeutic indications are the same in all kinds of puerperal insanity. Treatment consists in the removal of all exciting causes, a tonic *régime*, mild purgatives, injections of hydrate of chloral and other soothing influences.

L. N.

TREATMENT OF FACE PRESENTATIONS.

Medical Record, June 9, 1894.

Dr. Reynolds, of Boston, gave the following summary :—When a face presentation is detected before the engagement of the face and before rupture of the membranes, there is always hope for a spontaneous restoration of flexion. Therefore adopt postural treatment and gentle external manipulations. When the membranes rupture early, an external or bipolar version should be performed at once in any case in which the condition of the cervix renders manual dilatation

dangerous; but in ordinary conditions manual dilatation should be undertaken, the head flexed by the hand, and subsequently the appropriate operation should be performed. When the membranes persist until the cervix is completely dilated, an anterior position of chin should be left to nature so long as its progress is rapid and the foetal heart is steady; otherwise the patient should be anæsthetised and the head flexed. The posterior position of the occiput so produced should not be left to nature, but should be either treated by version, or preferably rotated to the front. It may then be left to nature or treated by forceps. Posterior positions of the chin should never be left to nature, but be subject to immediate manual flexation. The anterior position of the vertex which then results may either be left to nature or be delivered by forceps. In neglected cases, in which manual flexation is contra-indicated, version should be chosen if practicable; if contra-indicated, apply forceps to face, but chin should first be front. In cases in which the face presentation is due to some other mechanical obstruction, the treatment should be determined by the latter factor. The abdominal methods of delivery are never indicated in uncomplicated face labour.

Dr. Charles Fewett, of Brooklyn, assumed, in his treatment (1) that the mechanism of face-birth is abnormal, and may of itself constitute a serious complication of labour; (2) that presentation by the face is more frequently associated with other complicating conditions than are vertex births—*e.g.*, small pelvis, large child, prolapse of small parts. The mechanism tends to dystocia; complete adaptation of the head to the pelvis is impossible in mento-posterior positions. More important is the difficulty of rotation. Yet in wholly uncomplicated cases of face presentation spontaneous birth is the rule, although the labour is somewhat longer. The mortality of the children is greater. The graver difficulties of face-birth arise chiefly from its complications—disproportion between head and pelvis, prolapse of foetal members, or failure of pains—anomalies which are much more frequent in face than in vertex presentations.

In treatment, cases may be divided into two classes: (1) those in which the head is movable at the brim or can be made so by pushing it up; (2) those in which the head is permanently engaged. In the first, if the chin were anterior and pains failed, one should apply forceps. If the head were large, cord or arm prolapsed, version, would as a rule, best serve the interests of the child. As in the former, if the chin were posterior, spontaneous birth was generally possible if other conditions were favourable. He preferred, however, to reduce this presentation to a simpler one, the first choice being, as a rule, to bring down the occiput. Conversion of face to vertex presentation might be tried, after the face had sunk some distance into the pelvic cavity, by postural methods. For either correction after engagement or for forceps extraction, Walcher's position might lend important help.

Dr. C. P. Noble, of Philadelphia, said that, while he was in accord with the readers of the papers, he wished to suggest the propriety of resorting to symphysiotomy in cases of face presentation, head engaged, waters broken.

Dr. Edward P. Davis, of Philadelphia, said that statistics showed the best results to mother and child in spontaneous delivery in face presentations. Methods best adapted to secure this result must be based upon early diagnosis; hence the importance of perfecting the knowledge and practice of palpation. The treatment best adapted to secure spontaneous labour consisted in retaining the membranes unbroken until the time of spontaneous rupture, sustaining the patient's strength, and placing her in posture to favour rotation of the chin anteriorly. With face looking to left side, the mother should lie upon the left side, thighs flexed. As soon as dilatation is complete, the obstetrician should choose between radical interference by version, or an effort by the methods of Baudelocque and Schatz to correct the face presentation by converting it into an occipital one. The choice should depend upon the size of head, pelvis, and condition of pelvic floor. Dr. Davis remarked that obstetricians were familiar with the facility with which faulty presentations could be

remedied under complete anæsthesia and with a roomy pelvis in the oblique diameters, and suggested that it might be well to secure these conditions, if absent, by symphysiotomy.

Dr. Fry spoke of the necessity for several assistants, in order to place the anæsthetised patient in the genu-pectoral position, and recommended Trendelenberg's over a reversed chair.

Dr. Lusk related a case brought to the maternity after the attending physician had injured the uterus, bladder, vagina, and rectum by trying to deliver by forceps. He then performed symphysiotomy and extracted the child with ease, although of course, the mother, being already moribund, died.

L. N.

TRANSVERSE POSITIONS OF THE HEAD AT THE OUTLET OF THE PELVIS. By MAURICE MURET, *Revue Med. de la Suisse Rom.*, xiv., No. 1, 1894; *Schmidt's Jahrbücher*, No. 8, 1894, p. 167.

An etiological division into primary, secondary, and mixed cases is made.

Primary transverse position at the outlet occurs in the simple flat pelvis, both non-rachitic, and the rachitic pelvis that has taken this form, in double congenital dislocation of the hips, and in the contracted flat pelvis. In simple flat pelvis sinciput is lower, while in the contracted flat pelvis, the head being more strongly flexed, the occiput is lower. Furthermore the position occurs in the funnel-shaped pelvis and in the larger pelvis when a small head following a sudden rupture of the membranes is rapidly driven through the pelvis.

Secondary transverse position at the outlet occurs where heads are large, with wide occiput, which remains posteriorly in the passage through the pelvis. During the rotation at the outlet if the pains give out, the above position, which is transitional, results. The anterior fontanelle is usually lower.

The mixed form occurs in flat pelvis large enough to allow the head to pass the inlet in an oblique diameter with

the occiput posteriorly, but where, at the outlet, the contraction prevents a complete rotation of the occiput to the front. The results of this position are different. The pains may cease, or, in spite of strong pain the head may remain impacted in the pelvic outlet. Sloughing of portions of vagina and fistulæ may result. The child may die. With powerful pains the head may be driven through the bony outlet and stop on the muscular pelvic floor. Very rarely the delivery may be spontaneous in the transverse position, especially in cases of large pelvis with small heads and old perineal tears. Even in the contracted flat pelvis the head, if strongly flexed, may be born in the transverse position.

If rotation occurs in the outlet it is usually rapid, rarely slow. Occasionally the occiput rotates posteriorly; or, the rotation may occur without the pelvic outlet in the soft parts.

In the diagnosis accurate pelvic measurement is important. The majority of the primary cases were, in his experience, occipito-anterior presentations; of the secondary cases, occipito-posterior.

The diagnosis from position of the fontanelles is often made difficult by a large caput succedaneum; occasionally an ear can be easily felt behind the symphysis.

Prognosis for mother and child is, in general, not unfavourable. A long labour, especially in the primary cases, is dangerous.

Treatment, at first, expectant. Woman is placed upon the side to which the occiput points. If the labour does not progress, an effort to rotate the head, with two fingers passed up behind the ear lying against the symphysis, according to Tarnier. This is useless in cases of contracted pelvis.

If forceps become necessary Muret advises the oblique application, but not to attempt rotation with the forceps; when the head has reached the muscular pelvic floor the forceps are removed. Then rotation can be effected by means of two fingers upon the smaller fontanelle, while two fingers introduced into the rectum press the forehead posteriorly.

In the cases of funnel-shaped and contracted flat pelvis,

if child is living, symphysiotomy may be preferred. If child is dead, craniotomy.

The histories of thirteen cases from the Strassburg clinic are given. L. N.

RUPTURE OF THE UTERUS. C. GREEN, *Annals of Gynæcology and Pædiatry*, August, 1894.

Uterine rupture may be divided into three classes :

(1) Complete or incomplete tears of the lateral or posterior walls of the lower segment, with adequate provision for vaginal drainage, with hæmorrhage absent or easily controlled, and with no intestinal hernia. Such cases will often do well under simple palliation, with natural vaginal drainage, local antiseptics, general supportive treatment, and measures to promote and maintain firm contraction of the uterus.

(2) Complete tears of the lower segment, or even moderate tears of the uterine body, with hæmorrhage controllable *per vaginam*, with gauze pressure or partial suture, where the child has partially passed through the rent, and where more or less blood-clot and liquor amnii and perhaps also the placenta have entered the peritoneal cavity. For this class of cases peritoneal irrigation and weak antiseptics or sterilised salt solution, drainage, and iodoform wicking or gauze, combined with general palliative measures, would seem most appropriate.

(3) Cases in which delivery of the child through the pelvis is impossible or inexpedient ; in which uncontrollable hæmorrhage is present *per vaginam* ; in which the rents in the uterus are extensive and of irregular, transverse or ragged character. For such cases abdominal section is indicated.

The propriety of suturing the rents must be decided according to the condition of the uterus and the edges of the tears. When the latter are very ragged and infiltrated with blood, when the uterus is friable and apparently septic, hysterectomy promises better results than suture.

L. N.

ABDOMINAL PREGNANCY — FULL TERM, COMPLICATED WITH FIBROID OF UTERUS—CÆLIOTOMY AND REMOVAL OF THE CHILD AND PLACENTA AND ABDOMINAL HYSTERECTOMY. *Journal American Medical Association*, August 18, 1894.

Dr. W. F. McNutt (California), reports the following case:—This case is one in which a living child was removed at full term, and the diseased uterus removed as well.

"On August 24, 1893, I was called by Drs. Payne and Hirshiser, to see Mrs. D., age 34; she had gone to nearly or quite her full term, when she was taken with abdominal pains similar to those of labour pains, with active delirium. I saw her late in the afternoon; she had then been delirious for thirty-six hours, with a good deal of abdominal pain. The bed had been quite saturated with water which was supposed to have been due to the rupture of the membranes. The child's head was thought to have been felt at the brim of the pelvis; the cervix while soft was as long as an unimpregnated cervix, though the abdominal walls were contracted. The child could be felt very distinctly by abdominal examination. This was then late in the evening; I advised giving the woman rest for the night, and that I would return in the morning. On my arrival next day we chloroformed her and opened the abdominal cavity, where I found a living ten pound child, loose in the cavity, not encased in membranes. Lifting the child out and having tied the cord I found the placenta a large one, attached along the margin of the right broad ligament and to the peritoneum, and over the ascending colon nearly to the liver. I detached it rapidly; the hæmorrhage was profuse, and would have been greater, had not Dr. Anderson controlled the ovarian circulation. It soon ceased after the placenta was detached and a couple of ligatures used, one included the ovarian artery. We found a large fibroid of the uterus, which had been taken for the child's head at the brim of the pelvis. Thinking it best not to close the abdominal cavity with such a fibroid, I removed

the uterus. As the fibroid involved the lower portion of the body and the upper portion of the cervix, it was not possible to make a Porro, and the whole uterus was removed. When coming out from under the influence of the chloroform, the woman resumed her delirium, showed no evidence of shock but died forty-eight hours after." L. N.

ECTOPIC GESTATION (ABDOMINAL).

Gazette des Hopitaux and Quarterly Journal, 1894.

M. Houzel relates a case of ectopic gestation where he operated and found the child free in the abdominal cavity, and the placenta in the left iliac fossa and adherent over the convolutions of the small intestine; he left the placenta and plugged with idioform gauze; it came away in eight days.

H. S.

ON OSTEOMALACIA. By Dr. L. SEELIGMANN. *Berl. klin Wochenschr.*, 1894, xxx., No. 44; *Schmidt's Jahrbücher* 1894, No. 8, p. 168.

Woman, 37 years of age, married fifteen years, seven children, born at term, and five miscarriages. Present trouble dates from eighth gestation, seven years ago; since then almost entirely confined to bed. Conj. diag. 8 cm., pelvic outlet admits but two fingers. At term of last gestation Porro's operation, living child, 2410 gms., primary union without fever, stump off at end of four weeks. To rectify the bony deformity, a traction apparatus was applied to the lower extremities with counter traction from the axillæ five days after operation. Very successful result at end of eight weeks; 18 cm. increase in height, the pains in bones and joints, the swelling of the extremities had disappeared. The kyphoscoliosis and deformity of ribs were almost entirely reduced. The pelvic outlet was larger, conj. diag. 9 cm. Finally the patient could attend to her household duties.

According to Seeligmann removal of the ovaries is the proper procedure where prophylactic and medical treatment of osteomalacia have failed. He rejects the proposition of Zweifel to leave the ovaries and ligate the tubes. L. N.

PSYCHOSES OF LACTATION. *Archiv de Tocolog. et de Gynæcolog., et Brit. Med. Jour.* Feb., 1894.

Toulouse, in a contribution on puerperal psychoses, treats of those which are associated with suckling. In rare cases they follow quickly on labour, but then they are hard to distinguish from simple puerperal psychoses. The majority occur after several months of suckling in poor and weakly women. A third form follows weaning. Slight mental disturbance may accompany abscess of the breast, but it is then due most probably to sepsis. Mental disturbance during lactation may begin in the form of slight delirium following mental shock, or simply change of diet. As a rule, however, physical symptoms appear first. The patient becomes thin and pale, and palpitations, indigestion, and asomnia set in. In 25 cases noted by Marcé there was melancholia in 11, mania in 11, and partial delirium in 3. Prognosis is favourable, 20 recoveries and only 2 deaths having been noted by the above-named writer. As in puerperal mania, auto-infection probably accounts for the phenomena of mental disturbance during lactation.

L. N.

THE TREATMENT OF ASPHYXIA NEONATORUM.

Centralblatt f. Gynäkologie, 1894, No. 10.

Prochownick describes a new mode of treatment of asphyxia neonatorum which he proposes as a substitute for Schultze's method. It consists in suspending the child by the feet, the head being lightly supported. If no assistant be available to hold the child's feet, the operator grasps the ankles between the fingers of his left hand. With the right he grasps the chest, the thumbs being in front, and makes six to eight regular compressions; at first expiration. The nose and mouth are freed from any mucus, which allows air to enter with the inspiratory effort. It may be necessary to douche the suspended child with warm water to assist the respiratory efforts.

L. N.

AUTO-INFECTION AND THE BACTERIOLOGICAL ORIGIN OF PUERPERAL SEPSIS. T. D. DUNN *in Annals of Gynæcology and Pædiatry*, July, 1894.

The most important question which has been debated for some time, and often with the display of much feeling, is whether infection may come from organisms present in the genital canal or uterus previous to examination. In other words, is infection always from external causes, the fault of the attendant, or sometimes the result of poisons previously introduced?

Strictly speaking, there can be no such thing as an auto-infection as conceived by Semmelweiss, Ahlfeld, and others. The former says, "In rare cases the decomposed organic animal material which causes child-bed fever, when absorbed, is produced within the borders of the affected organism; these are cases of auto-infection and cannot all be prevented." It is now known that infection is due to micro-organisms, and they must come from without. There is some difference of opinion as to whether pathogenic organisms can remain in a latent state in the birth-canal during pregnancy and be absorbed into the wounds following labour, producing puerperal infection.

Krönig, a year ago, reported nine cases in which puerperal fever was due to gonococci which were found in the vagina and uterine cavity.

Von Frangen has recently reported a case of mild puerperal infection in which he found a pure culture of colon bacillus in the uterus; other organisms were not present.

In the *German Medical Weekly* for April 6, 1893, Heyse reported a fatal case of puerperal tetanus, in which he found, during life, the tetanus bacilli in the cervical secretion. These bacilli were also found in the cracks between the boards of the floor where the woman was confined, and were, in all probability, introduced into the genital tract during labour.

Gönnér, Thomm, and Samschein, the opponents of auto-

infection, claim that while bacteria are present in the vagina and uterus in healthy women, they are not pus-producing micro-organisms. The great majority of investigators, however, believe that the vaginal secretions frequently contain pathogenic micro-organisms.

Steffeck has examined the vaginal secretions of twenty-nine pregnant women and found in 41 per cent. pus-producing bacteria, which was proved by inoculation in animals. His observations have been confirmed by Winter, Döderlein, Widell and Witte.

From these experiments he believes in the possibility of auto-infection, and advocates thorough disinfection before labour. Döderlein, a distinguished bacteriologist as well as obstetrician, in his work on vaginal secretions, based on the examination of 195 cases, shows a difference in these secretions, and points out two varieties—the normal and pathological.

The normal secretion is a whitish material, with the consistency of clotted milk and acid reaction. It contains a long bacillus, a few epithelial cells, and sometimes a few yeast cells.

The pathological secretion usually has a yellowish or yellowish-green colour, is of creamy consistency, and often contains gas bubbles and tough mucus. The reaction is sometimes faintly acid, frequently neutral or alkaline. The microscope shows a marked difference from the normal, the pathological containing both bacilli and cocci, leucocytes and epithelial cells. Of Döderlein's 195 cases the secretion was normal in 53 per cent., and pathological in 47 per cent. Inoculations of animals with the normal vaginal secretions were harmless, while of animals inoculated with pathological secretions (10 per cent. of which contained the streptococcus pyogenes) one-half were affected. He accounts for the difference in results of former investigators by the secretions used—the negative results being obtained from normal cases.

Williams, of Johns Hopkins University, and Michel, of the University of Maryland, have recently examined the vaginal

secretions of fifteen pregnant women, and their results substantially confirm those of Döderlein. In four cases the secretion was normal. In two cases were found vaginal bacilli and unidentified cocci. In one no growth appeared on their media. In eight cases they found pus-producing organisms.

It thus appears that auto-infection is possible, but if (according to Steffek's statistics) the vaginas of 41 per cent. of pregnant women contain pyogenic organisms and developed septicæmia, the death-rate would be enormous. The circumstances under which auto-infection occurs from these organisms are not known. And here, as in surgery, where there are pathogenic organisms present, comparatively few wounds become infected seriously.

Williams holds that auto-infection is possible in a decided proportion of cases, but its occurrence is comparatively rare.

Duncan, of Toronto,¹ believes that the term auto-infection should be rejected; being non-existent, it should not be used as a shelter for the obstetrician. It seems that, as long as it has been indisputably demonstrated that streptococci are found in the birth-canal of a percentage of pregnant women, infection is possible from that source, and a practitioner who has a case of puerperal sepsis should not of necessity be condemned for carrying the poison to his patient. The admission of the possibility of auto-infection, however, is dangerous, for it may be used as a conscience-salve by the careless and neglectful obstetrician.

That such a danger is possible is the strongest argument in favour of the prophylactic douche, particularly in hospital practice and among the poor and uncleanly.

L. N.

¹ *Medical News*, March, 1894.

PÆDIATRICAL.

STERILISED MILK IN INFANT FEEDING.

L'Union Médicale, July 19, 1894.

M. Budin reported to the Académie de Médecine, in his own name and that of *M. Chavane*, the results obtained at la Charité Hospital from the use of sterilised milk. These results confirm the excellent ones previously reported by them in 1892 and 1893. Two children whose mothers had not sufficient milk were fed on sterilised milk, which they digested admirably, and upon which they thrived better than the average. Sterilised milk given in addition to breast-milk is of great service to women with twins, as they can thus nurse their own children. Two cases, illustrated by tracings, proved this fact. There are certain infants who cannot support the milk of a wet nurse, and in such cases sterilised milk is of great value, as shown by an instance in their service. Another child, born with harelip, who, for mechanical reasons, could not take the breast, thrived so well upon it that at 7 months it weighed 11 kilogrammes (22 lbs.).

One should also have recourse to sterilised milk when either or both parents are affected with syphilis. *M. Budin* reported four successful cases of this kind. The milk used is pure milk sterilised each morning in a water-bath, and used during the twenty-four hours. Milk mixed with water is often insufficient, owing to the fact that it is not rich enough in the butter, sugar, salts, &c., contained in the pure milk, and which play an important part in the alimentation of the child. Under the influence of heating to 100° F. (37·8° C.) the casein undergoes certain modifications which greatly facilitate its digestion.

The use of pure milk is much more simple for mothers as well as for nurseries and hospitals, as instead of regulating the quantity of water added to the milk by the age of the child, the same milk, pure, is given to children of all ages.

MM. Budin and *Chavane* are of the opinion that in the

first months of life the milk should be invariably given undiluted with water. Each bottle sterilised contains enough milk for one nursing, and there remains nothing capable of undergoing alteration, as is the case when large bottles are used. They believe that the use of sterilised milk, properly directed and watched, constitutes a decided step forward in the progress of the hygiene of infancy.

M. Fournier spoke very favourably, from his own experience, of the use of sterilised milk in syphilitic babies. These could not be given to a healthy wet nurse, and it was best to let them take the breast for a few days and then use the sterilised milk.

L. N.

SCORBUTUS IN INFANTS.

New York Medical Journal, May 26, 1894.

Dr. Wm. P. Northrup advances the following conclusions, based on an exhaustive study of the subject:—(1) Scurvy may appear at any period of infancy or early childhood, but is most common between the ninth and fourteenth months; (2) The lesions are hæmorrhagic in character, due probably to diapedesis. The most characteristic are sub-peritoneal hæmorrhages. Hæmorrhages into the muscular tissues, the skin, and mucous membrane are more or less constant; (3) It occurs in every grade of the social scale, but is more frequent among the rich than the poor. The neglected child who eats everything at table may become rachitic or marasmic, but he obtains enough fresh food to protect him from scurvy. It very rarely occurs in asylums and hospitals, because in recent years feeding in such institutions has been more rational than in many private families; (4) Lack of fresh food is the most important cause. The use of the proprietary foods and condensed milk produces more scurvy than all other causes combined. Even fresh milk in small proportions is not sufficient to insure protection; (5) Anæmia and malnutrition are almost invariably present; a peculiar

sallow complexion is common ; (6) Scurvy is frequently superadded to rachitis, but in a considerable number of cases no evidences of rachitis are present. So-called acute rickets is in most cases, probably in all rickets, complicated by scurvy ; (7) Pain is a constant symptom, it develops early and is usually intense ; (8) A varying degree of immobility of the extremities is common, and is frequently so marked as to simulate paralysis. This pseudo-paralysis disappears with the subsidence of the scorbutic symptoms ; (9) Subcutaneous hæmorrhages, as well as hæmorrhages from the cavities of the body, are very common, but are not necessary to a diagnosis of scurvy ; (10) The condition of the gums is characteristic. They are purplish, soft, spongy, and bleeding, and frequently show decided ulcerations. When the teeth have not been erupted, changes in the gums are usually slight or entirely absent ; (11) Painful swelling of the lower extremities is the most constant symptom ; the upper extremities are rarely involved. The thigh is affected more frequently than any other region ; (12) Children suffering from scurvy commonly present the following symptoms : anæmia, intense pain on motion, spongy and bleeding gums, swelling of the lower extremities, usually at the thigh. There may also be purpura or ecchymoses, discharge of blood from the various cavities of the body, and pseudo-paralysis ; (13) Scurvy, when untreated, is a very fatal disease ; when recognised and properly treated, a rapid and complete cure is usually effected. The result of anti-scorbutic treatment is, in fact, one of the most certain means of diagnosis ; (14) Scurvy may be mistaken for rheumatism, stomatitis, rickets, sarcoma, osteitis, and infantile paralysis ; (15) Scurvy is a dietetic disease, and must be cured by dietetic treatment. Fresh milk, beef-juice, and orange-juice are the most effective remedies.

L. N.

RECENT THERAPEUTICS.

ECZEMA OF THE HANDS IN SURGEONS.

Beilage zum Centralblatt f. Chirurgie, No. 30, 1894.

Dr. Lassar, in the treatment of eczema of the hands of surgeons following the use of antiseptics and their solutions, advises firstly the employment of non-irritating antiseptics, and above all, avoidance of carbolic acid and corrosive sublimate. Locally, some preparation of tar is best tolerated—not, however, of tar itself, but of its oil, associated with alcohol. Apply it locally towards evening, removing it with a mild soap after half an hour, while during the night a 2 per cent. salicylic paste or zinc salve may be rubbed in. The formula of the latter is as follows :—

Oxide zinc...	...	...	...	...	3ij
Olive oil	...	...	...	...	3j½

This is applied in a thick layer, and over it a dressing of "cotton batten and mull." The itching, infiltration and hyperæmia soon disappear, so that the disease is mastered even though the daily work be continued. Avoid shaking hands until cured.

A decided advantage is gained by employing, before application of the tar, the following paste :—

Beta naphthol	...	...	...	3ijss
Sublimed sulphur	...	...	...	3j½
Green soap, vaseline	...	...	...	aa 3v

MENORRHAGIA FROM CHLOROSIS.

La Semaine Medicale, No. 22, 1894.

Dr. Liégeois advises the following :—

Protochloride or sulphate iron	...	...	grs. xxxviii
Extr. hyoscyamus	...	...	grs. xv
Alcohol, resinous extr. hydrastis can.	...	...	3j½
Powdered liquorice	...	...	3j½

Sufficient for one hundred gelatine coated pills. Two pills at each meal, both during the menstrual periods and during the intervals.

A MIXTURE OF CHLOROFORM AND ETHER AS AN
ANÆSTHETIC.*Deutsche Medicinal Zeitung*, No. 59, 1894.

Prof. Laborde recommends a mixture consisting of nine parts of chloroform and one of ether as a safe and reliable anæsthetic. Rabbits and dogs, which are particularly sensitive to chloroform, did not seem to be affected by this mixture. Employed in human subjects the results were quite satisfactory.

VIBURNUM PRUNIFOLIUM IN DYSMENORRHEA.

Hospitals-Tidende, No. 26, 1894.

Dr. Schwarze, in several cases of dysmenorrhœa where it was dependent upon no palpable anatomical alterations in the uterus or its appendages, has employed with success the fluid extract of viburnum prunifolium, one teaspoonful three times a day. One should commence from five to seven days before the appearance of the menses, and continue until the period is passed. Viburnum opulus is also recommended in the same condition.

THE USE OF COCAINE FOR SUPPRESSION OF THE SECRE-
TION OF MILK. *Bull. Med. du Nord*, review in *Journ. de
Med. et Chirurgie*.

Dr. Joise, professor at the Faculty of Lille, has observed, as have other obstetricians, that cocaine, when applied to cracked nipples, has the power of diminishing the milk secretion, and from this fact he was led to the use of this agent when he desired a complete suppression of milk. He prescribes a 5 per cent. solution as follows :—

R̄ Cocain. hydrochlorat. 5'0
Aq. dist.
Glycerini āā 50'0

This solution is applied with a soft brush five or six times daily to the nipples. Suppression of milk is obtained in from two to six days. He has never experienced any incon-

venience from the use of this drug on account of the small surface to which it is applied. Cocaine, by producing anæsthesia of the nipple, prevents its erection, thus favouring, according to the writer, the decrease in the quantity of milk.

PALLIATIVE TREATMENT OF UTERINE CANCER.

BOLO. *Archiv. of Gynæ.*, p. 196, No. 6, June, 1894.

Curette cavity of uterus, repeatedly sponge with mixture containing: commercial acetic acid, ʒj.; glycerine, ʒiii.; carbolic acid, gr. xx. Pack with absorbent wool.

COOLING LOTION FOR PRURITUS.

Practitioner, July, 1894.

R̄ Liquoris ammonii acetatis, 2 fluid ounces (62 grammes); acidi hydrocyanici diluti, 1 fluid drachm (4 grammes); spiritus rectificati, 3 fluid drachms (12 grammes); aquæ rosæ, ad. 8 fluid ounces (248 grammes). To be applied locally.

LOCAL ANÆSTHETIC SOLUTION.

J. H. LOWREY, *New York Medical Journal*, July 21, 1894.

Cocaine hydrochloride, resorcin, each 16 grains (1·04 grammes); distilled water, 2 ounces (62 grammes). Does not cause systemic disturbances sometimes produced by cocaine alone.

HÆMORRHOIDS.

CARL BECK, *New York Medical Journal*, July 21, 1894.

Cleanse bowels thoroughly with repeated irrigations of salicylic acid solution. Introduce into the rectum a suppository containing 2 grains (0·13 gramme) of cocaine, and from $\frac{1}{4}$ to $\frac{1}{3}$ grain (0·016 to 0·02 gramme) of morphine, about fifteen minutes before operation. If patient is extremely sensitive, inject one per cent. solution of cocaine into different portions of mucous membrane immediately before operation. Bring tumours into view by introducing iodoform gauze tampon through small speculum. Inject saturated solution

of iodoform in ether into cellular tissue adjoining each nodule. Injecting on both sides of latter causes formation of scar-tissue and shrinking of circumvenous tissue. Now substitute suppository containing 2 grains (0·13 gramme) salicylic acid for gauze tampon. Give bismuth and opium to prevent movement of bowels. On third day inject 2 ounces (62 grammes) of olive oil into rectum, giving castor oil by mouth. During subsequent weeks bowels should be kept loose. Treatment successful in eight cases.

L. N.

GENERAL.

"CANCERS AND THE CANCER PROCESS."

Dr. Snow in his recent work takes a bold stand against the long accepted doctrine of heredity as a factor in their causation; he attributes the access of cancerous diseases affecting the sexual organs in women to the influence of the nervous system, and regards microbic influence as highly improbable. He regards operation in many instances as the best treatment, and extols opium, not merely as an anodyne, but as really favouring atrophy of the growth itself.

H. S.

ACTIVE SUPERNUMERARY MAMMA.

Quarterly Medical Journal, April, 1894.

Dr. Hall at the April meeting of the Sheffield Medico-Chirurgical Society contributed an article on an active supernumerary mamma in a woman. It existed below the left mamma four inches below its nipple, and four inches to the left of the middle line. The nipple was about one-sixth of an inch in diameter, with an areola of about a quarter of an inch. He points out that they are rarely functionally active.

H. S.

NEW METHOD OF STERILISING LIGATURES.

Semaine Médicale, June 6, 1894.

M. Périer called attention to a new procedure for sterilising and preserving ligatures and sutures, invented by M.

Répin. This author, from numerous experiments, found that alcoholic vapour exercises a microbicide action sufficiently strong to remove any kind of micro-organism from ligatures. The most resistant spores, such as the bacillus subtilis, anthrax, tetanus, and the septic vibron, were killed in from thirty-five to forty-five minutes by anhydrous alcohol vapour heated to 120° C. (248° F.). Catgut is thoroughly sterilised by this method without losing any of its properties. The author places the sterilised catgut in a culture bouillon and seals it in a glass tube, keeping it for several days in an oven. If sterilisation has not been complete, microbes will have developed in the bouillon, and the culture will have become cloudy; if, on the other hand, the liquid remain clear, it is a material and certain proof that the contents of the tube are thoroughly aseptic.

L. N.

NEW METHOD OF ENTERORRHAPHY.

Journal of the American Medical Association, May 19, 1894.

B. B. Cates forms the following conclusions:—“(1) Perforations occurring at the site of operation on making invagination are more liable to be near the mesenteric attachment. (2) Nothnagel's test was corroborated three times. (3) When using hydrogen gas in locating perforation and obstruction in primæ viæ, we should be sure that there is no occlusion in the rectum, as ordinary fæces, &c. (4) In excision of the cæcum, when ligatures are applied to the mesentery to stop hæmorrhage, there is liability of including the arterial supply of the bowels not in the area of the cut-off gut. (5) It is not absolutely necessary to apply a ligature to the mesenteric arteries in the cut-off gut, simply compression with hæmostatic forceps and carrying of the mesentery from its attachment to the cut-off gut being sufficient. (6) In making lateral anastomosis, or end-to-end union of bowel-wall, a slight scarification of the serosæ would, as first pointed out by Davis, of Birmingham, hasten the adhesion, and consequent healing of the coapted parts. This may be omitted where the ad-

herent surfaces are backed up by sutures. (7) Where the coapted parts are reinforced by sutures such as catgut, the latter serve as a frame-work for the plastic exudate which is quickly thrown out, thereby shutting off any avenue for the intestinal secretions to escape into the abdominal cavity. (8) Whatever sutures are applied to serosæ, they will be covered with plastic exudate within twelve to forty-eight hours. (9) Buttons offer many advantages as sutures over plates in making approximation of bowels by later anastomosis: (*a*) time, which is such an important factor in these operations, is greatly reduced; (*b*) they do not slip about and thus annoy and vex the surgeon; (*c*) the approximate surfaces can be increased or reduced at the surgeon's will; (*d*) they act as splints to the bowel and bring the coapted parts into closer union and the ectropium is easily controlled; (*e*) the button, when it frees itself by pressure atrophy, will, on account of its small size, easily pass through the ileo-cæcal fissure. (10) Wherever the fistulous communication between the bowel is over an inch in length, a button should be inserted every three-fourths of an inch, to prevent ectropium and bring the bowel into closer union. (11) Lateral anastomosis as a surgical procedure offers better ulterior results in restoring the fæcal circulation than end-to-end union of bowels. In the former method, when the opening is not long enough, it is not followed up by so great traumatic stenosis as in end-to-end union. (12) In making this anastomosis, my button is superior to plates, and therefore I offer it to the surgeons of America (in lieu of plates), into whose hands its future usefulness as a surgical process is resigned. (13) Whatever procedure is adopted, it is safer to back up or enhance the circumference of the fistulous communication in coapted bowels with sutures of fine aseptic silk, which will encapsulate itself, or catgut, which will be ultimately absorbed, the Dupuytren or the Dieffenbach suture being the quickest and easiest applied.

“The button used in my experiments consists of a male and a female portion. The female portion of the button is

made of brass, though for obvious reasons aluminium or silver would be better, and has a base seven-sixteenths of an inch in diameter, with a small cylinder projecting from it about three-sixteenths of an inch long, hollow from end to end, and with a slit on either side of the cylinder reaching nearly to the base. The male portion of the button, which is solid, consists of a base five-sixteenths of an inch in diameter and a neck one-fourth of an inch long. This fits into and may penetrate beyond the base of the female button. To make the buttons easier of introduction, the female is accompanied by a sharp point about an inch long, which has a neck guarded by a shoulder, and this neck fits into the apex of the cylinder of the female button. The male button is also accompanied by a sharp point, a cap, an inch long, hollow at its base. This fits over the neck of the male button. The technique of the operation, when using the button, is the same as when using the plates until after the incision is made into the intestine, when an assistant arms the female portion with the steel point, which you quickly thrust through the entire thickness of the bowel-wall from within outward, commencing on the lower side of the fissure. Then fitting the sharp spike or cap over the male button, it is passed through a corresponding point in the opposite cut edge of the bowel, from within outward. The male is then fitted in the female button and pushed home from within the lumen of the bowel. In like manner the angles of the fissure are approximated, leaving the upper sides of the opening to be closed last. Here the surgeon, after inserting the buttons, is to grasp the base of the male and female buttons separately with tissue-forceps, and after inverting the cut edges of the wounds with buttons *in situ*, so as to bring the serosæ *vis à vis*, he engages the male button in the female and pushes it home from without through the bowel-wall. This button is smaller than the Murphy button."

L. N.

NOTES AND NEWS.

IN these days of hospital enquiries and publication of relative statistics it is very gratifying to learn that something good may be found in many places which have neither the advantages of a metropolitan location, or the privileges attached to a large general hospital. As an example, the following figures, from the Samaritan Hospital, Nottingham—a small special hospital with only thirteen beds and officered by three gynæcologists—are, in our opinion, worthy of record :—

From January 1, 1894, to October 13, 1894 :—In-patients, 134 ; operations, 108 ; abdominal sections, 73.

The abdominal sections comprise :—

Abdominal hysterectomy for myoma	...	...	...	...	1
Vaginal hysterectomy for cancer	...	...	...	...	3
Myomectomy	...	...	...	...	1
Ovariectomy	...	...	...	...	18
Removal of appendages—					
For inflammatory disease	...	...	...	...	29
For fibro-myomata of uterus	...	...	...	...	5
Cholecystotomy for gall-stones	...	...	...	...	6
Radical cure of hernia (femoral)	...	...	...	...	1
For pelvic abscess	...	...	...	...	2
For peritonitis	...	...	...	...	1
Explanatory incisions	...	...	...	...	4
For perityphlitic abscess	...	...	...	...	1
For fæcal fistula	...	...	...	...	1
					—
					73
Mortality	...	...	...	...	0

ERRATUM.—We have received a number of letters from Mr. R. O'Callaghan referring to an error at page 171 of our last issue, part xxxviii. Mr. O'Callaghan informs us that his patient made a good recovery. The error was partly journalistic, partly due to the careless proof-correcting of the author, who wrote on the margin of the proof-slips—"Patient on tenth day." This somehow became altered into "Patient died on tenth day." We are bound to say that from Mr. O'Callaghan's method of correction and the context we are not sur-

prised at the mistake. We regret that it occurred, but hold our staff and ourselves only partly to blame. Should any such error be observed in future, we hope our other correspondents will frame their letters in courteous terms, or come and see us in an amicable spirit, for they may rest assured we are anxious to make the best of every man's work, and treat all our correspondents and contributors with consideration.

ANNUAL MEETING.—We would direct the attention of the Fellows of the British Gynæcological Society to the announcement, made in the advertisements, of the Annual Meeting, which will be held on January 10, 1895, at 8.30 p.m., at 20, Hanover Square, W.

BOOKS RECEIVED.

Books received for review, which are hereby acknowledged with thanks:—*Practical Manual of Diseases of Women and Uterine Therapeutics*, by Dr. MacNaughton Jones (6th edition); *Travaux d'Electrotherapie Gynécologique*, par le Dr. G. Apostoli; *Abdominal Surgery*, by Skene Keith, F.R.C.S.E., and George Keith, M.B.; *Intestinal Approximation*, by J. B. Murphy, M.D.; *Diseases of the Breast*, by Roger Williams, F.R.C.S.; *Practical Uroanalysis and Urinary Diagnosis*, by Dr. C. Purdy; *Syllabus of Lectures on Human Embryology*, by Dr. Walter Porter Manton; *Lehrbuch der Frauenkrankheiten*, by Dr. H. Fehling; *Ignaz Semmelweis*, by F. Hueppe; *Die Symphyseotomie*, by Dr. P. Zweifel; *Ueber Pessarien*, by Dr. M. Sängner, &c., &c.

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THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, NOVEMBER 8, 1894.

PROFESSOR SAVAGE, M.D., PRESIDENT, IN THE CHAIR.

PRESENT : 26 Fellows.

The following gentlemen, proposed at the last meeting, were elected Fellows of the Society :—Ed. L. Mansell, M.B., C.M.Aberd., 15, Liverpool Street, W.C. ; James Oliver, M.D., M.R.C.P.Lond., 18, Gordon Square, W.C. ; J. Wisley Madden, jun., M.D.Nashville, Nashville, Tenn.

The undernoted nominations of candidates were made :—Edgar Beaumont, M.R.C.S., L.R.C.P., L.S.A.Lond., 23, Gipsy Hill, Norwood ; F. E. Fenton, F.R.C.S.Ed., M.R.C.P. Ed., Langstone, Uxbridge Road, Ealing ; F. Van Imshoot, M.D., M.C.Belgium, 8, Rue de la Monnaie, Gaud ; R. W. Johnstone, M.D., B.Ch.Dublin, 36, Cheyne Court, S.W. ; Skene Keith, M.B.Ed., F.R.C.S.Ed., 42, Charles Street, Berkeley Square, W. ; C. E. Oakley, L.R.C.S., L.R.C.P.Ed., 43, Mecklenburg Square, W.C. ; P. Walton, M.D.Gaud, 64, Rue Charles V., Gaud, Belgium ; R. H. Wiffin Wilbe, M.D. Dunelm, 21, Finchley Road, St. John's Wood, N.W. ; G. J.

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Wilson, M.A.Oxon., M.B.Dublin, 14, St. Giles', Oxford; A. T. Wysard, M.R.C.S., L.R.C.P., West Dulwich.

NOTES OF THREE CASES OF CARCINOMA UTERI SUCCESSFULLY REMOVED BY VAGINAL HYSTERECTOMY. By FRED. BOWREMAN JESSETT, F.R.C.S., Surgeon to the Cancer Hospital.

Case I.—A. B., aged 52, admitted into the Cancer Hospital, July 11, 1894, suffering from cancer of the body of the uterus, under my care. Microscopic examination: adeno-carcinoma. She has been a widow 24 years; has had three children. Has observed a blood-stained discharge for the past nine months from the vagina. Has lost flesh and strength latterly, and suffered pain in lower part of back and abdomen. Menopause occurred seven years ago. She consulted Dr. Wilson, of Oxford, who suspected cancer, and sent her to Dr. Clement Godson, who confirmed this suspicion and sent her to me for operation.

She is rather an emaciated-looking woman. Examination *per vaginam* the cervix and os appear healthy; there is, however, a sanguineous discharge from the os, which in a woman of her age invariably, I believe, points to malignant disease. Uterus is freely movable.

July 17.—Vaginal hysterectomy was performed by me; operation lasted 30 minutes. The broad ligaments were ligatured with silk, and the ligatures were left long. No drainage tube was used, and the vagina was packed with iodoform gauze.

August 24.—Patient discharged well.

Case II.—E. S., aged 47, admitted into Cancer Hospital Sept. 19, 1894, suffering from cancer of the cervix of uterus. Married 28 years; six children, youngest 17 years old. Microscopic examination: epithelioma. On June 6 had a severe flooding; felt quite well before this. Was seen by her medical man, who treated her for *change of life*, but made no vaginal examination. Hæmorrhage continued very severe from time to time, and on Sept. 17 she consulted Sir Spencer

Wells, who sent her on to me. Extremely anæmic woman. Vaginal examination divulged a large growth involving the os and cervix, which bleeds somewhat freely on examination. There is a foul-smelling discharge. Uterus freely movable, but the growth occupies the whole vagina.

Sept. 25.—Vaginal hysterectomy was performed by me. Operation lasted half-an-hour. There was some difficulty in this case, owing to the size of the growth, in freeing the cervix. Patient lost scarcely any blood. This patient died sixteen days after operation from œdema of the lung. The pathologist reported the wound in vagina quite healed. No peritonitis, and death resulted from œdema of lung due probably to a very thin-walled degenerate heart.

Case III.—L. N., aged 68, admitted into Cancer Hospital, Sept. 18, 1894, with cancer of the body of uterus under my care. A widow; no children. For the last nine months has suffered severe pain in lower part of back and abdomen; she also has a blood-stained discharge. Has been under treatment for the last two months. Microscopic examination: scirrhus. She is an emaciated-looking woman. Owing to the extreme smallness of the vagina it was found to be impossible to make a thorough examination without placing her under ether. This was done, and the uterus was found to be small, the os and cervix healthy. There was, however, a sanguineous discharge escaping *per os*. On passing the sound, the bleeding was increased. The sound only passed the normal distance. The diagnosis was made of cancer of the body of uterus, and operation advised, which was performed on Sept. 25. There was a good deal of difficulty in getting the uterus down, owing to the narrowness of the vagina and pelvis. I divided the perinæum in the centre to give more room. The operation lasted thirty minutes. No drainage tube was used, and the vagina was packed with iodoform gauze. The patient was discharged quite well on Oct. 27.

Dr. PURCELL, referring to the case in which there was difficulty in bringing down the uterus, said that division of the perinæum to facilitate this process did not, as a rule,

interfere with the convalescence of the patient, as long as it was properly stitched up again at the time. The early diagnosis in these cases was noteworthy: the cases illustrated the advantage of it, from the point of view of treatment. Hæmorrhage after the menopause should always lead to the suspicion of cancer; this could be confirmed by microscopic examination. Mr. Jessett's second case did not die from the effects of the operation, but from a weak heart; it was noteworthy that the vagina was found, at the autopsy, to be healed. He had himself had two cases lately, and they had both done very well. The cases at the Cancer Hospital were not isolated, but kept in the general ward; he was not sure if it would not be better to keep them separate, but the cases were so numerous that this was not practicable.

Dr. HEYWOOD SMITH said that he noticed that the tubes and ovaries were not present in either specimen. Had Mr. Jessett left them behind purposely, or was he obliged to do so owing to narrowness of the vagina? He would also like to ask Mr. Jessett whether, in his experience, it was easier to remove the ovaries and tubes when using the clamp, or when using the ligature? With reference to the diagnostic use of the curette in these cases, he would submit whether it would not often be better, when vaginal conditions would allow of it, to dilate the cervix with Hegar's dilators till the finger could be introduced, to explore the cavity and thus detect the growth. For it seemed to him that the use of the curette might increase the danger and difficulty of the operation, by favouring infiltration of the broad ligaments.

Dr. MACNAUGHTON JONES thought there was one point on which Mr. Jessett might throw some light, namely, the relative frequency of scirrhus. In his experience, scirrhus of the body of the uterus was very rare; and it was also difficult to diagnose, because the symptoms which preceded the well-marked and classical symptoms were obscure, and possessed no definite features. He could remember having met with only one case of scirrhus of the fundus, and even that one he could not be quite certain of, since no autopsy was made.

From the clinical features he had been led to diagnose it as scirrhus. In that case the bowel was affected, as indicated by constipation, severe pain on defæcation, &c. Such rectal troubles were, he believed, common in cases of scirrhus. He would be interested to know how often Mr. Jessett had seen and diagnosed scirrhus.

The PRESIDENT referred to the social bearing of these cases. In his experience carcinoma of the uterus occurred more frequently among the poor than among the rich; perhaps some of the Fellows could confirm this view and throw some light on the explanation of it. He had noticed further, not only that cases occur more often among the poor, but also that among them the disease was commonly less advanced when they came under observation, so that the cases which would admit of treatment were more frequent. He did not know the explanation of this; for it was not what they would expect, because poor women usually went on longer without advice.

Dr. HEYWOOD SMITH suggested as a partial explanation that poor women were less careful about douching, &c.; retention of discharges might favour cancer by irritation. From this point of view, did Mr. Jessett find that cancer of the cervix was, relatively to cancer of the body, more common among the poor than among the rich?

Dr. ROUTH asked whether it was a fact that cancer was more common among the poor than among the rich? In his experience the reverse was the case. He had thought that the reason was, in some cases, the eating of cancerous meat. He had reason to think that this was the true explanation of some cancer cases that he had met with, and he was sure he had seen cancerous meat at his own table. The poor were not able to eat so much meat, and might thus be preserved from the bad effects of meat that was diseased.

Dr. R. T. SMITH said, had he understood Mr. Jessett to say that a sanguineous discharge in women over the age of 53 meant always cancer? For he had seen several patients after that age, in whom a discharge of blood was due to senile

endometritis. He did not know whether to envy the more Mr. Jessett's success as an operator or his skill as a diagnostician.

Mr. JESSETT replied. Referring to Dr. Purcell's remarks—there were certain cases where division of the perinæum was necessary: even with a very small uterus, it might be necessitated by narrowness of the vagina. There was, however, some risk in it. He had seen one case in which, in extracting the uterus after division of the perinæum, a tear was made into the rectum, resulting in a recto-vaginal fistula. He was not sure whether it was better to make the division lateral or median; but he had done it only three times, and each time in the middle line: in only one case had he any trouble with it. With reference to Dr. Purcell's remark, that it might be better to isolate these cases, he thought this was of no importance if the vagina was properly packed with iodoform gauze. His practice was to leave the gauze in for two days, or longer if possible. By that time the vagina, as seen through the speculum, was always healed: another packing of gauze was then put in. He believed there had not been a case of septic poisoning in the hospital after vaginal hysterectomy.

Replying to Dr. Heywood Smith's question, he said that both women had passed the menopause, and in these cases it was not at all necessary to remove the appendages. In younger women it was desirable; in them he had seen cases where pain had resulted from leaving the appendages behind. He had no experience as to the relative facility afforded by the clamp and the ligature in the removal of the appendages, for he had used the clamp only once. When the size of the uterus had caused difficulty, he had not used the clamp, but had performed a combined abdominal and vaginal operation. As regarded curetting, it would be very difficult in some cases to dispense with it, for diagnosis; for, as in a case which Dr. Heywood Smith had sent to him, the cervix might be in a fibroid condition, rendering dilatation out of the question. In that case he believed that, by curetting the uterus, and confirming his diagnosis, Dr. Heywood Smith

had saved the patient's life. In some other cases, like the first he had mentioned, dilatation might be done and the growth felt by digital examination; but he had not done it here, because the diagnosis was clear without. True scirrhus of the uterus was, as Dr. Macnaughton Jones had said, very rare; and he believed that it was a disease of later life. The case reported was not diagnosed as scirrhus, but as carcinoma: the pathologist reported it to be scirrhus.

Often people suffered from various uterine troubles, but from delicacy or other reasons they deferred advice; or the medical attendant neglected to make a vaginal examination. This was the case with a patient he had seen a week before; she had been bleeding for some time, but had not been examined. Probably among the better classes cancer occurred as often as among the poor. He felt sure that if the early symptoms were regarded, and an examination made, many cases might be saved. Constipation and other bowel troubles were common: he explained them thus—that the proximity to the bowel of the diseased uterus, or the actual invasion of the bowel by the disease, caused defæcation to be very painful; consequently the relieving of the bowels was put off and neglected till the condition became one of chronic constipation. Probably one reason that the disease appeared to be more common among the poor was that such cases became collected together, particularly in special hospitals, from a wide area; whilst cases among the wealthy did not become so generally known. He doubted if the douche had much effect in preventing carcinoma of the uterus; lower animals had no douches, yet were not much affected with cancer. He doubted also the causation of cancer by eating diseased meat, for attempts at inoculation of fresh cancer into animals had failed. But he had no experience of cancerous meat. Dr. R. T. Smith had asked whether he regarded hæmorrhage after the age of 50 as a sure sign of cancer. Certainly all cases were not to be so interpreted. But other diseases producing hæmorrhage at that age, such as senile endometritis, and certain lupoid conditions, were very rare; as a rule

it might be safely concluded that hæmorrhage pointed to cancer, and in such cases a vaginal examination should never be neglected.

A CASE OF PUERPERAL PELVIC CELLULITIS FROM PHLEBITIS. By W. BALLS HEADLEY, M.A., M.D. Cantab., F.R.C.P.Lond., Lecturer on Obstetrics and Diseases of Women at the Melbourne University ; Hon. Physician to the Women's Hospital, Melbourne, Australia.

The following case is described from notes taken by Dr. Clendinnen, of Hawksburn, with whom I saw the patient in consultation.

Mrs. N., aged 28, primipara, a rather weakly woman, for some time before her confinement had a vein of the left leg inflamed, tender and swollen, which gave no farther trouble after her confinement. Her labour commenced on Wednesday, May 10, 1893. On Friday, the 12th, Dr. Clendinnen was called in, and finding the head stationary and the system suffering, the pulse being 120, at 6.45 p.m. administered chloroform, and delivered with the forceps with some difficulty. Two stitches were placed in a moderate rupture of the perinæum. The placenta was satisfactorily expressed, and there was no post-partum hæmorrhage. On the Monday, three days after delivery, she had a short attack of shivering, and was feverish: the temperature on Tuesday, the 16th, in the afternoon was 101° , and in the evening 102.5° . On the following morning, Wednesday, it was 102° ; at midday 103° and in the evening 104.3° . On this afternoon she had an attack of shivering, and dyspnœa suddenly occurred. "The breathing was difficult and jerky; she felt that she was choking, and could not answer; like asthma, she could not breathe; was as if she had been smothered, wanting more air." Brandy and a mixture of sp. æther with sp. ammon. aromat. were given, and she was kept very quiet and not allowed to move. On the Thursday the temperature fell to 101° ; on Friday the morning temperature was 99° , and in

the evening 101° ; and on Saturday 97° ; on Sunday and Monday in the mornings 97° , and in the evenings 98.2° ; on Tuesday morning, the 23rd, 104° , and a second attack of dyspnoea occurred, and subsequently two slighter attacks. A slight, rather indistinct cardiac murmur was heard, which disappeared afterwards; and there was no pneumonia, though occasionally a hard cough, relieved by a cough mixture. The lochia were slightly offensive—removed by vaginal injections of Condyl's fluid. On Wednesday, the 24th, the temperature in the morning was 100° , in the evening 103.5° ; and during the ensuing ten days ranged from 98.5° in the mornings to 101.8° in the evenings, with but slight variations. Five-grain doses of quinine three times a day were given during this period.

On June 4 I saw her in consultation with Dr. Clendinnen. By the abdomen there was a sense of thickening, appearing to be an induration in the upper and outer part of the left broad ligament, two inches internal to the left anterior superior spinous process. By the vagina the uterus was well contracted, small, normal and freely movable, and what little discharge there was, was inoffensive. The thickening was not felt by the vagina; and on double palpation there was no sense of fluctuation. No sense or symptom of peritonitis presented itself at any time. On this evening the temperature rose to 104.8° , after which it gradually fell with considerable morning and evening variations, till from June 8 to 13 it was tolerably steady at from 98° to 100° , on which last evening it rose to 101.5° ; and for the next three weeks ranged from generally 98.2° in the mornings to from 100° to 102° in the evenings.

On July 4 there was still no evidence of fluctuation. On the 10th, similar temperatures maintaining, under chloroform a fine trochar was introduced in three slightly different directions into the indurated tissue, but no pus was found. The temperatures subsequently somewhat declined; but from July 18 to August 25 were tolerably steady in the mornings, at from 98° to 99° , and in the evenings at about 102° . For the following week the temperatures in the

mornings were from 100° to 101° ; and in the evenings from 101.5° to 103° . The left leg had now been for some time drawn up, so that on September 3 the thigh was at about a right angle with the trunk, but there was no œdema. There was also a slight sense of fluctuation in the pelvic fascia internal to the left anterior superior spinous process of the ilium; and under chloroform a fine trochar tapped pus. A large trochar was then introduced by the side of the smaller one, a drainage tube introduced through the cannula, which was withdrawn. From two to three ounces of pus escaped, and the subsequent discharge was quite slight. The temperatures continued high till September 15, when in the evening 103° were registered; but the leg had resumed its normal position and movement; and from this time convalescence was gradually established, the wound closing on Oct. 20. During the five months of illness the strength of the patient was well maintained, considering the conditions. Recovery was complete.

The treatment was by quinine, sometimes in a single dose of from 10 to 20 grains at about 4 o'clock, or in 5-grain doses or less three times a day; by half-drachm doses of the tinct. ferri perchlor.; mild salines were occasionally given for the bowels, and rectal injections; poultices and hot fomentations were applied to the abdomen. The strength was supported by animal broths, milk and eggs; and as much whiskey, brandy or wine were given as agreed with her—generally from four to six ounces a day.

Of the causations of puerperal pelvic cellulitis this case admirably illustrates in minute detail that by phlebitis. Such cases are exceedingly rare, for the inflamed vein must be of only moderate and probably small size, else the effects would be more extensive and serious than would result in only a suppurative cellulitis, and be at such a distance from the opening of the venous sinus into the uterus, as that the *débris* of the breaking down clot may not discharge itself into that viscus.

The septic phlebitic action must not be too strong, else it

might produce suppurative phlebitis, when death ensues from such progressive virulent action up the vein. Nor must it be that somewhat less degree than the above, as when the septic venous inflammation is strong enough to produce such disorganisation of the thrombi that large pieces break away as emboli ; for then also death is thereby produced. Nor, on the other hand, must the inflammation be of such a mild kind that while there is some phlebitis, resolution presently occurs and the vein heals.

But for the production of pelvic cellulitis by this causation the phlebitis must have just such a moderate degree of virulence that, while the evidence of embolism may be apparent as in this case, the emboli are so small as to have an effect short of producing death, else the patient would not live to have the cellulitis. By the inflammation of the inner coats of the vein thrombi form above the septic location, and eventually are organised, closing the vein in the direction of the heart. But enough septic matter remains in the thrombus in the most affected location to prevent its absorption and contraction, and it undergoes a septic suppurative action of low quality.

The breaking-down clot is maintained in its situation by strong healthy thrombi with contracted venous walls on the cardiac proximal and distal aspects ; else in proximal feebleness of thrombi, discharge of emboli would occur toward the heart and death result ; or in distal weakness of clots, suppurative discharge would escape into the uterine canal. Both thrombi being thus strong and comparatively healthy, the pressure from the central suppurating thrombus is exerted laterally on the coats of the vein at the septic site, which gradually become softened, and ultimately yield to the internal increasing force, so that the pus escapes through them into the adjacent connective tissue. The whole action being of such limited virulence, the quantity of pus formed may be inconsiderable in amount, and finally dependent upon the degree of difficulty, and thus of connective necrosis, with which it makes its way in the direction of least resistance in

the connective tissue layer ; which König has experimented on and described.

The rarity of pelvic cellulitis from this causation is thus explained by the rarity of a phlebitis of such exact degree as is indicated above. In this case the liability to phlebitis was apparent in the presence of the inflamed vein in the left calf before labour ; and the condition of the blood may therefore have been predisposing to a pelvic phlebitis after the somewhat severe labour, possibly by an exciting influence of the lengthened pressure of the head on the pelvic structures. Though the uterus was throughout apparently normal, yet it may have been that there was some slight septic absorption. But this is doubtful as to an external virus, for as the phlebitis of the calf might have advanced to suppuration, so may this pelvic cellulitis have so progressed under the influence of damage by pressure.

The evident continuance of the causation throughout the earlier time of the illness is apparent. The slight recurrent embolisms are diagnostic, as well as their cessation, yet continuance of the illness.

The sense of induration without fluctuation indicates the thickening of the connective tissue ; and the ineffective first aspiration, so far as the tapping of pus, reminds us of the similar result in the case of a boil, in which the connective tissue is necrotic, but pus has not yet accumulated in appreciable quantity. Yet the punctures probably relieved tension, as the temperatures were for a time reduced. But the latter constant high temperatures show the continuance of the inflammatory and absorbent processes. The drawing up of the leg indicates the pressure on and irritation of the pelvic flexor muscles of the thigh ; and their relaxation on relief of the pus, the removal of the mechanical irritant. The long slow progress and the small quantity of pus finally discharged point to the limited character of virulence of the connective inflammation and necrosis.

Dr. HODGSON said he had three cases very similar to the one recorded in the paper ; and he was rather surprised to

find no mention of a method of treatment which was not unknown, and which, in his hands, had yielded excellent results, namely, a mixture of equal parts of liquor hydrargyri perchloridi and liquor ammoniæ acetatis. All his three cases had recovered very quickly under this treatment.

Dr. SCHACHT said that apart from the interest of this case in the fact of its recovery, it had another noteworthy feature, viz., the previous attack of phlebitis. This feature raised the question, whether or not phlebitis was always of septic origin. The case described followed labour, and it was of course quite possible that sepsis was the cause; but in view of Dr. Headley's remarks about pressure, it might really have been a case of injury to the veins concerned. Dr. Headley's explanation gained interest from the fact that of late these cases, like those of phlebitis after operation, were all put down to sepsis, whether the patient had gone on well in the meantime, or not. He had had a case in which the patient went on well for fourteen days after operation, and then developed phlebitis. It *might* have been septic; but there was no other symptom present to support this view. The patient had a very weak circulation, and the cardiac conditions might thus easily predispose to thrombosis and phlebitis. Keith had lately recorded a case in which phlebitis resulted a week after the operation of ventro-fixation of the uterus. It was put down in this case to a chill—a cause formerly regarded as quite efficient; and he thought that they would do well to bear this in mind, and to regard chill as a possible cause of phlebitis.

Dr. LEITH NAPIER thought the case an important one. The question had arisen in his mind whether they had not been wrong in so markedly discarding the theory of the autogenetic origin of inflammatory troubles following delivery. He had seen a case lately with Dr. Durno, in which a patient had gone on very well for three or four days after delivery, and then became ill. There was no apparent cause: the labour had been natural, and there had been no lacerations. After ten days the illness became intermittent. He had not

the notes of the case with him ; but the curious point was that as long as she took liquid diet she remained fairly well ; as soon as she took solids—fish, meat, &c.—she became worse. There had been no ascertained sepsis in the case ; and when he saw her, he found her cinchonised, perspiring freely, and looking very ill. The pulse had been slow all through the illness, even when the temperature was high. On examination, the left Fallopian tube was found to be enlarged, and the ovary was felt ; but there was no distinct matting of tissues, no cellulitis. It turned out that on several occasions her febrile condition had been relieved by an attack of dysenteric diarrhœa. He had to give an explanation. He suggested that there might have been previous tubal disease, resulting in adhesions to the bowel ; when the bowel became distended, and thus caused dragging on the inflamed appendages, the symptoms developed. He gave a favourable prognosis, because it was his experience that if such patients went on for a month they nearly always recovered. He had recorded a case in which the patient got well after fifty-three days' illness, and he had seen another case of recovery after forty days.

He believed that true phlebitis with suppuration was very rare after delivery ; it was possible that in Dr. Headley's case the vein became thrombosed, and the thrombus suppurated. Before tapping, one ought to be certain that there was pus ; for if there were not, tapping might produce it.

Dr. Headley had noted an indistinct cardiac murmur ; this was a symptom very indicative of puerperal mischief affecting the system. It was not a hæmic, nor was it a valvular murmur, and it often lasted only twenty-four hours. It was frequently overlooked ; it was therefore gratifying to see that Dr. Balls Headley had so well combined the *role* of physician with that of obstetrician. Rigors were not now regarded as due in every case to accumulations of pus, but might be esteemed as Nature's danger-signals when the system was in grave danger or distress. The ruptured perinæum, in Dr. Headley's case, might have been the starting-

point of the cellulitis; this was probably often the cause. Dr. Headley's theory was ingenious—almost too ingenious; and it seemed to him to offer considerable difficulties, for hitherto no one had been able to precisely gauge the varying influence of clots of different sizes.

Dr. ROUTH said he thought they ought all to be much obliged to Dr. Headley for his valuable paper. When they met with an up-and-down temperature after labour or after operation, they might be quite sure there was matter somewhere. He had seen cases in which repeated exploratory punctures had yielded nothing, and yet the pus had shown itself at last. He had seen lately the case of a lady who imprudently lay on a couch in front of an open window at the time of her catamenia. She became very ill, and he was sure, when he saw her, that there was pus. Puncture proved it. He let out the matter and washed out with iodine, yet she did not get well, so he feared there was, somewhere out of reach, another abscess. The temperature continued, and one day, when he did not expect it, the hidden abscess burst. There was not the slightest danger from the aspirator if the instruments were clean. He had no doubt that Dr. Headley's case was septic.

Dr. MACNAUGHTON JONES said that he was by no means satisfied that the origin of this case could be traced to sepsis. He quite agreed with Dr. Schacht that they were all too apt to be influenced by the bogus "sepsis" in explaining the causation of suppurative processes and the appearance of pus. He had seen a case of phlebitis, and phlegmasia, with threatened pelvic abscess, where the trouble was due to an injured varicose vein. He had met with pelvic abscess associated with phlebitis, consequent upon acute miliary tuberculosis. Cases occurred frequently in which no true logical sequence could be traced between the suppurative condition and a septic origin. This question of sepsis after operation required now to be looked at from a dual point of view—the scientific and the social. We first educated the public, and then the public made us its veriest slaves. Before

long, following on the recent Russian Antiseptic Society's rule, no surgeon will be able to shake a fellow member by the hand lest he should infect him by so doing. He quite differed from the view of Dr. Routh, that the aspirator could not possibly do harm. In cases with a long-continued oscillating temperature, the question was whether it was not much better to open the abdomen at once, instead of poking about with an aspirator. He had seen many cases go to the bad owing to this plan of "masterly inactivity," and in cases of abscess after delivery he was sure they would obtain much better results by opening the abdomen early. It seemed to him that to allow pus to remain in the pelvis till it became foetid and penetrated through the connective tissues and affected all the annexa, was not sound treatment. If the woman escaped she had very little to thank her doctor for. A puerperal abscess was especially liable to form when the inflammation had a traumatic origin. The blood of some women during pregnancy and after delivery was very prone to inflammation and suppuration, and they need not look for sepsis to account for every lesion under such conditions.

He noticed, from the paper, that in Australia they had not, apparently, the "ine" mania. Of late, antifebrin, antipyrin, thallin, and a host of similar drugs had come into universal use; it seemed to be thought necessary to administer them in every case, ringing the changes upon them. They were by no means harmless; true, their antipyretic effect could not be doubted, but to reduce temperature was not the end and aim of treatment. Their effect was often to mask the true course of the disease, and thus to obscure the real condition of the patient. He believed that some patients died as much from the treatment as from the disease.

As regards treatment, he was rather fond in these cases of phlebitis of an application of the oleate of mercury, with belladonna, and if the pain extended to the abdomen, the application of the same with turpentine lanolated. He would give as little medicine as possible by the mouth, but would adopt the old plan of giving a simple diaphoretic in the first

instance with quinine, and keeping up the strength. If the heart were weak, a little digitalis should be added to the quinine.

There was one point of diagnosis which was often very difficult, namely, to locate the abscess. Again, they had flushing of the face, tympanites, localised abdominal tenderness, very much as in the early stages of typhoid, and, in many such instances, nothing but time would determine the nature of the case.

THE BRITISH GYNÆCOLOGICAL SOCIETY.**THURSDAY, DECEMBER 13, 1894.****PROFESSOR SAVAGE, M.D., PRESIDENT, IN THE CHAIR.****PRESENT : 24 Fellows and Visitors.**

The following gentlemen were duly elected Fellows of the Society : Edgar Beaumont, M.R.C.S., L.R.C.P., L.S.A.Lond., 23, Gipsy Hill, Norwood ; F. E. Fenton, F.R.C.S.Ed., M.R.C.P.Ed., Langstone, Uxbridge Road, Ealing ; F. Van Imshoot, M.D., M.C.Belgium, 8, Rue de la Monnaie, Gaud ; R. W. Johnstone, M.D., B.Ch.Dublin, 36, Cheyne Court, S.W. ; Skene Keith, M.B.Ed., F.R.C.S.Ed., 42, Charles Street, Berkeley Square, W. ; C. E. Oakley, L.R.C.S., L.R.C.P.Ed., 43, Mecklenburg Square, W.C. ; P. Walton, M.D.Gaud, 64, Rue Charles V., Gaud, Belgium ; R. H. Wiffin Wilbe, M.D., Dunelm, 21, Finchley Road, N.W. ; G. J. Wilson, M.A.Oxon., M.B.Dublin, 14, St. Giles', Oxford ; A. T. Wysard, M.R.C.S., L.R.C.P., Dulwich, S.E.

The undernoted nominations were made :—Adolphus M. Cafferata, M.D.Belgium, 5, Avenue Manteau, Spa, Belgium ; Fred. R. Miller, M.D.Bru., L.R.C.P., 31, Shepherd's Bush Road, W. ; T. Bodley Scott, L.R.C.P., M.R.C.S., Alkington, Poole Road, Bournemouth ; J. Clarence Webster, M.D.Edin., F.R.C.P.Ed., 20, Charlotte Square, Edinburgh.

SPECIMENS.

**LEFT TUBO-OVARIAN ABSCESS, WITH RIGHT PYOSALPINX.
BY HEYWOOD SMITH, M.A., M.D.**

The case was one of double tubal disease involving the ovaries. The patient, aged 40, was seen in consultation on

November 12, the symptoms being pain and severe flooding with each period. She had been married eleven years, had no children, but had had two miscarriages. She had been a widow for five years.

On examination, the right appendages were found much diseased. She was very weak. She was admitted to Warrington Lodge, November 14. A striking feature was the weakness of the pulse, with smallness of the arteries, and at the operation Dr. Buxton deemed it necessary to give a hypodermic injection of strychnine before giving the anæsthetic. After the operation the pulse became stronger for two weeks, after which it returned to its former condition. At the operation, the peritoneum was found to be very thick and the right ovary and tube formed a mass the size of a small orange adherent to the pelvic wall and to the small intestine. The mass was kept intact till it was out of the wound, when the wall gave way ; but no pus passed into the abdominal cavity. The left tube was much thickened, but the left ovary was small and gelatinous in the centre. Pus was found in both tubes. The patient made a good recovery.

Dr. LEITH NAPIER said it was difficult to say, from a casual examination, what the initial lesion was in this case, but it might have begun with purulent salpingitis. The specimen from the right side was different from an ordinary tubo-ovarian abscess, in that the walls were thin and distended. It might be an illustration of a course of events which until lately had been denied, namely, a hydrosalpinx becoming infected and forming first a pyosalpinx, and later a tubo-ovarian abscess. He would ask Dr. Heywood Smith if an examination of the specimen had been made, which would decide the question of origin.

The PRESIDENT observed that Dr. Heywood Smith had not mentioned whether gonorrhœa was responsible for the disease in this case. The fact that during a married life of six years she had had two miscarriages but no children pointed to the possibility of latent gonorrhœa contracted in earlier years.

Dr. HEYWOOD SMITH said that there was no history of gonorrhœa, but it may have existed. He asked that the specimen might be referred to a pathological committee, to determine whether the two tubes represented successive stages of the same disease, and whether the ovary was secondarily involved on the right side.

Committee nominated by President—Drs. Shaw Mac-kenzie, Giles, Heywood Smith.

HÆMATO-SALPINX AND TUBAL PREGNANCY CONTRASTED.

By G. GRANVILLE BANTOCK, M.D., F.R.C.S.Edin.,
Senior Surgeon to the Samaritan Hospital.

I have here two specimens illustrating the two conditions, the contrast offered by which is the subject of my paper.

(1) The first specimen, consisting of the uterus and its appendages, was obtained from the body of a married woman, aged 30, whom I saw for the first time on July 13 last, in consultation with Dr. English. She was the mother of three children, of which the youngest is 11 months old. This child was suckled till the end of the third week in June, *i.e.*, three weeks before my visit. Two months after her last confinement the menses re-appeared, and they continued to recur regularly every four weeks till the beginning of June, with one exception, viz., in February—March, when the period was a week late. About the beginning of June she began to complain of pain in the right groin, and a fortnight later, while walking out in the neighbourhood of her home, she was seized with a sharp pain which, in her own words, “quite doubled” her “up.” She had difficulty in getting home, though the distance was only short. She went to bed at once, and sent for Dr. English. The pain lasted for several hours until relieved by a sedative. In the evening of the same day the menstrual period made its appearance at its proper time, viz., exactly four weeks from the last. The flow was very free for about half an hour, and then ceased. On the 28th she had another attack of severe pain, and next day was carried into a neigh-

bouring hospital. On this day the flow returned, "in the usual way," as the patient described it. From that time, and for more than a fortnight onwards, she had a continuous and sanguineous discharge, varying in quantity, at times very free, both fluid and coagulated. During her stay in the hospital, where she remained only a week, she had another sharp attack of pain, an aggravation of more or less constant pain complained of in the right groin. On July 6 she returned home. On the 13th, she had another attack of severe pain, and it was then that Dr. English asked me to see the patient with him. The rectum was so loaded with hard scybalous fæces that it was impossible to make even an approach to an accurate diagnosis. We could only discuss the case in the light of the clinical history, and this led me to discountenance the idea of tubal pregnancy. There was no tumour corresponding with a pregnancy of three months, and there were other considerations that need not detain me at present. A week later I saw her again, and then learned that the clearing out of the rectum had been followed by considerable relief from the pain, but that the sanguineous discharge was not affected. The rectum being now clear it was easy to make out a small swelling in the region of the right appendages, while the uterus was not enlarged. The fundus could be plainly distinguished through the thin abdominal parietes, but the back of the uterus could not be traced upwards from the cervix in consequence of some resistance in Douglas' pouch. The left side of the pelvis presented nothing unusual. As it was evident that surgical interference was now called for, I admitted her the same evening into the Samaritan Free Hospital. Hitherto there had been very little rise of temperature, and after the journey to the hospital it was only 99·6°, while the pulse was only 88 at 8 p.m. Next day the temperature at 11 a.m. and 2 p.m. was 99·8°, pulse 84; the vaginal discharge was very free, and the pain still troublesome. At 5 p.m. the pain was so severe as to require a sedative, for which purpose tr. op. and belladonna (10 minims of each) were administered by the rectum, and at 11 p.m. the dose had to be repeated.

At 8 p.m. the temperature was only 98°6'. On the 22nd, the patient began to be sick, bringing up her food mixed with bile ; but as there was no appreciable rise of temperature, or alteration in the character of the pulse, the condition was regarded as due to gastric disturbance. She still complained of pain, and in the course of the day had two doses of the sedative. In the evening the vaginal discharge ceased. Food was withheld by the mouth, and beef tea injections were substituted. 23rd.—Sickness less troublesome, still bilious ; no abdominal distension, on the contrary, abdomen rather hollow ; no rise of temperature, but pulse up to 96. An enema given in the forenoon acted fairly well. Slight return of vaginal discharge noted. Late on the evening of the 24th, although the temperature and pulse presented no variation, especially in the way of upward tendency, and the abdomen was still hollow, it became evident that the patient was losing ground, and arrangements were made for operating next day. Her condition then was more unfavourable, and just as I was ready to begin the operation the patient died under the anæsthetic.

A careful *post-mortem* examination, at which I was present, was made by Dr. Hebb, but it was unfortunate that forty-eight hours had been allowed to elapse. The pelvic viscera were then much discoloured by diffusion of the hæmorrhage of the blood, especially in the right side. In the course of the removal of the small intestine it was found that its integrity was abruptly interfered with at a point about six inches distant from the cæcum. Thence to the cæcum the intestine was firmly contracted. The point just indicated coincided with an adhesion of the intestine to a blood clot which had formed where blood had issued from the inner side of a swelling of the right Fallopian tube ; with this exception the intestines were quite free. When they were got out of the way the pelvic contents were removed entire, and a more detailed examination was then made, eliciting the following facts. A small amount of blood had escaped into the peritoneal cavity, and had coagulated in Douglas' pouch, forming a bond of union between the opposing pelvic sur-

faces, the intestines floating on the top. The amount of clot would represent something under two ounces of blood, and appearances indicated that the effusion had been of a comparatively recent date. The right Fallopian tube was distended in its outer part or fimbriated extremity to the size of a tennis ball, and turning inwards upon itself had contracted adhesions with the ovary. A weak spot in the circle of adhesion observable in the specimen and presenting a smooth edge, had given way, blood had issued in small quantity into the peritoneal cavity, gravitating into Douglas' pouch, and coagulating there as well as in the opening, where it formed a plug. Appearances also indicated that there had been only one bleeding, as the clot was quite uniform. To the clot, plugging up the opening, the intestine had become adherent, and paralysis of the lower portion of the gut ensued. After dividing the walls of the dilated tube a rounded, almost spherical body, was easily turned out. This body proved to be a solid blood clot. The tube thence to the uterus was quite patulous, and a surgical probe was easily passed along it. On the uterine aspect of the clot, where the tube necessarily presented a somewhat trumpet-shaped form, there was a small quantity of semi-fluid blood. The left ovary and tube were quite healthy. The uterus was cut open and presented the appearances of a healthy but somewhat undersized organ. There was nothing to indicate or even suggest the recent existence of a decidual membrane.

(2) The clinical history of this case stands in marked contrast with that presented by the second case, to which I now proceed to direct your attention.

This second specimen is an admirable example of ruptured tubal pregnancy. It was obtained from a lady to whom I was summoned by telegram on October 1 to Hampton Wick, by Mr. Fergusson of Richmond. On my arrival, about seven hours after the accident, the patient presented signs of emerging from a state of profound collapse. The history of the case was as follows. Age 32, married, four children. Two years previously had an attack of typhoid fever during

pregnancy, and was prematurely delivered at the seventh month, in the third week of the fever. She was a strong, well-nourished woman. Menstruation regular and of normal type; last period seven weeks ago. On September 26, she began to have a coloured discharge, somewhat resembling a normal period, and without pain. About 11 o'clock on the morning of October 1, while sitting at a table writing, she was suddenly seized with a sharp pain in the lower abdomen, followed by a feeling as if some warm fluid were rising up in the abdomen towards the diaphragm, and almost immediately afterwards she lost consciousness. When Mr. Fergusson arrived he found her in a state of profound collapse, and as soon as possible telegraphed for me, in the meantime adopting the usual means of treatment. Acting on the supposition that the case was one of severe internal hæmorrhage, probably due to the rupture of a tubal pregnancy, great care was exercised in making an examination, especially in the way of avoiding unnecessary pressure. It was easy to make out that there was something unusual in the region of the right appendages, but although there was decided dulness on percussion over the hypogastrium, no definite tumour could be detected. It was agreed that perfect rest in the dorsal position, with the head low, should be observed, and very light diet administered, while stimulants should be avoided lest a too sudden reaction should bring about a recurrence of the hæmorrhage, which in her collapsed state, even to the extent of a few ounces, might, and probably would, prove fatal. The supposed nature of the case and its probable course were explained to the husband, and it was made clear to him that, while it was out of the question to think of operating then, nevertheless the question would have to be faced in the course of a few days. I saw the patient next day, and while she had considerably improved, I yet saw no reason to change my opinion. I took the opportunity of pointing out that the case was taking the course I had anticipated; that while as yet there was no rise of temperature, it was probable there would be within a few days, and that that would be a signal for interference. The

following day the husband was the bearer of the report, which was of a most favourable character, and it was evident that the more the patient improved the more repugnant to him became the idea of an operation. How could an operation be necessary when his wife was going on so well? But the time had not yet arrived. On the morning of the 5th, the husband again brought me the report, which told that the temperature had risen from a subnormal state to more than a degree above the normal. The result of a long conversation was that I should see her again early in the afternoon, accompanied by some one who had had some experience of a similar case, and in whose judgment I had confidence, and that I should be prepared to operate if my opinion were confirmed. To meet these requirements I selected a man who had seen some of Mr. Lawson Tait's cases, and was not without personal experience, and who, moreover, would be under the circumstances a *persona grata*—I mean my friend Mr. O'Callaghan. My opinion was confirmed, the husband's consent—I ought rather to say his permission—was obtained, and the operation was at once performed. Hence this specimen. There were several pints of blood, liquid and coagulated, in the peritoneal cavity. The left ovary and tube were examined, found healthy, and no further interfered with. The recovery was without notable incident.

Up to the time when the peritoneum was exposed I felt the heavy weight of responsibility as a very serious matter, but this was relieved as the dark colour of the peritoneal contents, seen through the thin membrane, told of what was within, and completely faded away as the blood gushed forth when the peritoneum was divided.

Here there was a definite series of phenomena of which surgical experience has taught us to find the meaning, while a mere physical examination would only have landed us in confusion and doubt. The case reminded me very forcibly of one which was under my care in the Samaritan Free Hospital a few months previously. The arrest of menstruation, sudden collapse and general recovery were very similar. When,

about a week later, the patient entered the hospital, all signs of collapse had passed away, and the appearance of the patient simply denoted a certain amount of anæmia. The physical examination yielded a negative result and failed to find any justification for an abdominal section. Had the patient and her husband, one or both, seriously objected, I should not have contended against them. The only symptom was a slight rise of temperature. The case proved an invaluable experience to me, and the remembrance of it, still fresh in my mind, gave me confidence when placed in the difficult and responsible position which I have described.

Now in the case to which I have first called your attention the question of tubal pregnancy was discussed and the idea rejected on the following grounds. The interruption of the menstrual period for one week, four months previously, was the only thing to give countenance to it for a moment, but the fact that in the meantime menstruation had occurred several times with regularity and in normal form seemed to give it formal denial. Nor could it be said that the physical examination, admittedly imperfect though it was, gave it any support. Moreover, pain was much more severe and constant than is characteristic of tubal pregnancy, and partook very much of the character of dysmenorrhœa; for the pain was for the most part in proportion to the amount of blood passing away by the vagina. The pain may be called tubal dysmenorrhœa. This is not a far-fetched idea, for recent abdominal surgery has taught us that the Fallopian tube plays an important part in the menstrual function. After ovariectomy in which the pedicle was treated by the clamp it was no uncommon thing to observe a sanguineous discharge from the cicatrix at the site of the stump during the menstrual period. I have operated on one of these cases for the cure of a ventral hernia several years after the ovariectomy, with two pregnancies occurring in the meantime, and it was not until I ligatured the pedicle and separated it from the abdominal wall that this phenomenon ceased. Furthermore, the *post-mortem* examination showed that while there were repeated bursts of

hæmorrhage by the vagina, there was only one hæmorrhage into the peritoneal cavity, and it is extremely probable that this hæmorrhage took place within a week of the occurrence of the intestinal adhesion and obstruction. Hence we arrive at the conclusion that the pain in the earlier weeks of the patient's illness was due to the tension within the tube—a true tubal dysmenorrhœa. Examination of the clot within the tube showed that it was devoid of any cavity, and that it had been formed by successive accretions, the centre being older than the outside, especially towards the still patulous uterine portion of the tube. Nor was there at any time anything approaching or simulating the shock of an intra-peritoneal hæmorrhage. It appears to me, therefore, to be a legitimate conclusion from the facts disclosed by the *post-mortem* examination, added to the clinical history of the case, that here we have to do with an example of hæmorrhage into the Fallopian tube unconnected with pregnancy.

What a contrast these two cases present !

On the one hand we have a slight, temporary interruption of menstruation, followed by its normal re-establishment for several periods, pain for several weeks, more or less continuous, but with frequently recurring severe attacks of a paroxysmal character, along with vaginal hæmorrhage varying in quantity and bearing a tolerably close correspondence with the character of the pain, and definite *post-mortem* appearances negative of pregnancy. On the other hand we have complete arrest of menstruation lasting over two periods, a slight vaginal discharge for three to four days without any pain, and a sudden sharp pain followed by collapse from which the patient slowly recovered, and an absolute demonstration of the occurrence of pregnancy. The contrast is striking.

The PRESIDENT, referring to the first case in the paper, said that instances of limited hæmato-salpinx were not very-rare. Tubes were sometimes met with filled with blood and the size of a walnut without any history of pregnancy. He did not gather whether the hæmorrhage took place through the fimbriated opening or through a gap in the wall of the

tube. Two months ago he had met with an unusual form of internal hæmorrhage. He was called to see a lady from whom he had removed a small ovarian tumour four months previously. The account that was given of her symptoms was, that she became suddenly collapsed after a hot bath. He found her recovering from the collapse, and presenting, on examination, a hard lump behind the uterus. Owing to the improvement he gave a good prognosis. But some days after he was telegraphed for and found her very anæmic. Her condition was so grave that he opened the abdomen at once, and found it to be full of blood. As the hæmorrhage had then ceased, he washed out the abdomen and closed the wound; but she had already lost so much that she gradually sank, and died forty-eight hours after operation. The source of the hæmorrhage was evidently in the neighbourhood of the stump of the broad ligament.

With regard to Dr. Bantock's second case—the clinical history was a surer guide to the diagnosis of tubal gestation than of any other condition. The previous sterility; the amenorrhœa with slight uterine hæmorrhage; the lump behind the uterus; and especially the decidual cast, when present—these were quite diagnostic.

Dr. MANSELL-MOULLIN said he was specially interested in Dr. Bantock's second case, because he had one recently at the West London Hospital that was very similar. When the patient had been in hospital for a week, and keeping quiet, all the symptoms of rupture suddenly came on. He was called down to see her one Sunday, and the diagnosis was then quite clear. He operated the next morning. She made a very good recovery.

Dr. Bantock told them that in his case, although there was collapse, and there was no doubt about the diagnosis, yet he waited several days before operating; why was this? Statistics had shown that 80 per cent. of those that died, died within the first twenty-four hours. He would like to ask Dr. Bantock, also, what course he would advise with the gestation sac developing within the broad ligament. At what period would he operate?

Dr. HEYWOOD SMITH thought that the chief interest centred round the case of ectopic gestation. To what did Dr. Bantock attribute the rise of temperature which he had predicted, and which occurred? Was it to inflammatory processes? and if so, might these not complicate the case unnecessarily? What was the proportion of cases in which a second hæmorrhage occurred? and was not the risk of this increased by waiting? Of course if a clot formed in the rent, the opening might be blocked and further hæmorrhage checked; yet, if a second rush of blood occurred, some oozing at least would take place which might be enough to threaten life, and so cause a risk which would be avoided by early operation.

With reference to Dr. Mansell-Moullin's second point, he thought there was no question as to the propriety of operating as soon as the diagnosis was made out, without waiting for the symptoms of rupture to supervene.

Dr. LEITH NAPIER remarked that there were several points of interest about the first case. The source of the hæmorrhage had not been ascertained, and the cause of death must be regarded as, to some extent, accidental. In former years many hypothetical explanations were given of hæmato-salpinx; but he thought that Dr. Bantock, with his large experience, might be able to throw some light on the pathology of hæmato-salpinx when not due to gestation. At a sister Society, a little time ago, he had shown two tubes, the seat of hæmorrhage, where the most careful examination failed to show any evidence of gestation. In that case the uterus was enlarged. Without a microscopical examination it was very difficult to discriminate between a simple hæmato-salpinx—with amenorrhœa, enlargement of the uterus, recurrent attacks of pain, collapse, weakness and general malaise—and tubal pregnancy. Hæmorrhage during the first three months might accompany pregnancy, whether intra- or extra-uterine. A possible explanation of Dr. Bantock's case was that it was a tubal abortion, with hæmorrhage through the abdominal ostium, before this had

got sealed up. He would submit, with deference, whether Dr. Bantock had not been too cautious in dealing with this case, and whether the patient's life might not have been saved by earlier operation. It would be interesting if Dr. Murray could give them some account of the circumstances of the death under the anæsthetic, and the restorative measures employed.

Dr. SHAW-MACKENZIE pointed out that in the specimen which Dr. Bantock showed, obtained from the case of ectopic gestation, the fimbriated end of the tube was not sealed. Bland Sutton had stated that the ostium usually becomes sealed by the tenth week. He had himself examined many specimens, at the Royal College of Surgeons and also in the Museums of University College and the Chelsea Hospital for Women, including five specimens of Dr. Cleghorn's, reported in the JOURNAL OF THE BRITISH GYNÆCOLOGICAL SOCIETY. Now whereas, in a simple salpingitis, the end was nearly always sealed, in a tubal gestation it was just as often open. A specimen lately exhibited at the Society by Mr. Taylor showed the same thing. On going carefully over all these specimens, he came to the conclusion that the sealing or otherwise of the ostium depended on the position of the ovum in the tube. If the gestation sac was near the fimbriated end, the latter became closed, but if it was situated at the uterine end, the fimbriæ were not involved. In Dr. Bantock's specimen, the gestation sac was quite at the inner end of the tube, and the rent in the tube was in the same situation.

Dr. Mansell-Moullin had asked at what time operation should be done. When the rupture was primarily upwards, the symptoms were those of collapse, and operation should be done at once. When the rupture occurred downwards, into the broad ligament, the symptoms were not so severe, and it was justifiable to temporise. But once a diagnosis of tubal gestation was made, ruptured or not, there was little use in delaying operation. Dr. Cleghorn had pointed out, in the notes of his cases alluded to, that in every case a



marked pulsation of the tubal vessels could be felt on bimanual examination. He believed that they knew of no kind of lateral rapidly-growing tumour, with pulsating vessels, except ectopic gestation. Of course, as had been pointed out to him, there was likely to be little or no pulsation when collapse had occurred; but otherwise he believed that it was a sign of considerable value.

Dr. HEYWOOD SMITH asked what anæsthetic was used at the second operation, and how; and what the cause of death was.

Dr. LEITH NAPIER asked if inhalation of oxygen was resorted to.

Dr. STORMONT MURRAY said that the patient was very weak before the operation; chloroform was used, with Clover's inhaler. She took it well for a few minutes, then gave a gasp, and she was dead. Oxygen was not used. Artificial respiration and other means were adopted for twenty minutes, but it was useless. The cause of death was heart failure.

Dr. BANTOCK said, in reply, that he had long been in doubt as to the source of the blood in hæmato-salpinx, and as to the possibility of its occurrence apart from pregnancy; but the case he had related had decided him that it could be so. He and Dr. Hebb had been specially careful in the *post-mortem* examination, and had concluded that there was only blood clot, and no pregnancy. It was now known that the tubes played an important part in the function of menstruation; and this part was discovered and demonstrated by the hæmorrhage which took place from the stump of an ovarian pedicle treated by the clamp. The case recorded by the President was in a different category; the hæmorrhage there could not have come from the tube, as this had been removed; but the case was important as showing that a patient might die of hæmorrhage from the seat of ligature of an ovarian tumour. Dr. Mansell-Moullin had asked, why delay operation? But he thought that when called to a woman in collapse, with a hardly perceptible pulse, it would be most

unwise to operate at once ; if she was not going to rally, she would die whether operated on or not, and he should prefer not to run the risk of blame for the fatal issue. Moreover, during collapse there was no active hæmorrhage going on, because the stream was so weak that coagulation occurred. So on all grounds it was better to wait till reaction set in. The coagulation he spoke of would not, of course, prevent a further hæmorrhage ; and he had operated on a patient after a third rupture ; he operated after the collapse had passed off, and she recovered. They must bear in mind also that the operation itself was a source of shock. Dr. Mansell-Moullin had asked also when one should operate, in the early weeks. If the tube had ruptured into the broad ligament, it was best left alone. If not ruptured, the diagnosis was very doubtful, for physical signs could not be relied on, and they must consequently trust to the history ; and the history itself was always equivocal before rupture had occurred. The date of rupture would probably depend on the seat of gestation ; in the outer, more distensible part of the tube, it would be later ; in the inner part it would be earlier ; and the latter cases were the most fatal. He had recorded one case of tubal pregnancy going on to term. Dr. Heywood Smith asked if the rise of temperature was due to inflammation ; he thought not, but rather to irritation ; it was not very easy to explain, but he had generally found it to occur.

Intra-peritoneal pressure was not enough to stop hæmorrhage ; it was more rational to say that after a certain amount of hæmorrhage, the stream became so weak that coagulation occurred round the rugged edges of the tubal opening. He did not know if he ought to plead guilty to the charge of not operating soon enough. But when he first saw the patient the rectum was so full that he could not make anything out ; and he only saw her again a week later, when he sent her into hospital. He did not recognise the cause of the sickness as being due to obstruction of the bowels, which it probably was, but attributed it to gastric catarrh.

He quite agreed with Dr. Shaw-Mackenzie's views, ex-

cept that he had had no experience of the pulsation, perhaps because he had had to deal with cases of collapse. At the same time it was not at all uncommon to find very large arteries in the pelvis in cases of fibroid.

A committee, consisting of Dr. Bantock, Dr. Giles and Dr. Shaw-Mackenzie, was nominated by the President to report upon the specimen of tubal gestation.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JANUARY 10, 1895.

PROFESSOR THOS. SAVAGE, M.D., PRESIDENT, IN THE CHAIR.

PRESENT: 29 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society: Adolphus M. Cafferata, M.D., Spa, Belgium; F. R. Miller, M.D., Shepherd's Bush; T. Bodley Scott, L.R.C.P., M.R.C.S., Bournemouth; J. Clarence Webster, B.A., M.D., F.R.C.P. Edin., Edinburgh.

The following were proposed for election:—Adam Young, L.R.C.P., M.R.C.S., South Hampstead; Henry E. Giffard, M.R.C.S., L.S.A., Egham, Surrey; Arthur W. Wheatley, M.B., London; Frank Godfrey, L.R.C.P., L.R.C.S., Highbury; George E. Yarrow, M.D. Heidelberg, L.R.C.P., M.R.C.S., Islington; Stanlake James, M.R.C.S., L.R.C.P., London; Fred. T. Travers, M.B., B.S. Lond., Maidstone.

REPORT ON DR. BANTOCK'S SPECIMEN.

(Shown December 13, 1894.)

This is a typical example of primary rupture of a tubal gestation sac with attached ovary and meso-salpinx.

The inner third is distended to about the size of a walnut. Laterally a rupture exists, capable of admitting the little finger and through which blood clot is protruding. On section and removal of blood clot, the sac is found to be formed by the distended and thinned wall of the tube, the inner surface being ragged in places.

Though no embryo is found, the localised blood cyst is undoubtedly the seat of gestation. The gestation is tubal and not tubo-uterine.

The outer part of the tube is normal with patent ostium and well defined fimbriæ. On examination, however, the lumen is occupied by a loose and thickened lining suggestive of decidua.

The ovary is normal with defined follicles and well-marked corpus luteum.

J. A. SHAW-MACKENZIE.

ARTHUR E. GILES.

GEORGE GRANVILLE BANTOCK.

REPORT ON DR. HEYWOOD SMITH'S SPECIMENS.

(Shown December 13, 1894.)

These are typical examples of advanced chronic bilateral inflammation of tubes and ovaries.

Specimen 1 forms a tubo-ovarian sac the size of a small orange with secondary loculi, and containing purulent matter. The external surface is rough from dense adhesions. The tube is immensely hypertrophied, to the size of little finger, the fimbriated end being lost and incorporated with the ovary and meso-salpinx, the whole forming a fleshy mass, and it being difficult to determine the limit of tube and ovary.

Specimen 2.—The tube is hypertrophied in a similar way, the fimbriated end is sealed and adherent to the ovary, which is well defined together with the meso-salpinx. This specimen is probably an earlier stage of chronic inflammation than specimen 1.

In this specimen it is clear that the disease is more advanced in the tube than in the ovary. From the latter a portion is missing, having been left in the pedicle. It otherwise would be comparatively normal. The meso-salpinx is much thickened and has been involved in the inflammatory trouble.

From a general review of these specimens it is evident that the primary disease has been salpingitis spreading to the ovaries. Indeed in these cases it is more reasonable

to suppose that bilateral disease of both organs would originate in the tubes.

It is of course impossible to determine the primary cause of the salpingitis.

ARTHUR E. GILES.
J. A. SHAW-MACKENZIE.
HEYWOOD SMITH.

SPECIMEN.

TUBAL GESTATION REMOVED BEFORE RUPTURE OF THE CYST. BY DR. MANSELL MOULLIN.

The following are the notes of the case :—

J. M., aged 35, was admitted into the West London Hospital on November 28. She had been the mother of one child sixteen years previously. She had not had any miscarriages, and there was no history of any former pelvic trouble. The catamenia had always been regular and free from pain. The last occasion was on September 20. The period due in October had been missed, and about a fortnight after it should have occurred the patient was suddenly seized one evening when getting into bed with the most violent pain in the lower part of the abdomen. For a month the pain recurred at intervals, the attacks lasting for several hours. Opiates were given, and afforded a certain amount of relief. For a week preceding admission the pains had been somewhat less severe. On examination the abdomen was soft and flaccid, very tender in the hypogastric region, where a lump could be felt low down behind the pubes. Bimanually this appeared to be the enlarged uterus, freely movable. On the left side some ill-defined swelling was felt. The tenderness was very great, and the examination seemed to start the pain, which lasted for some hours, necessitating the administration of morphia.

On December 15 the abdomen was opened in the middle line, and an ovoid mass, the size of a large orange, removed from the pelvis. This proved to be the right Fallopian tube

with the ovary attached. On opening the cyst it was found to contain some fresh blood-clot and an ovum with embryo of the twelfth week. Rupture of the cyst had not occurred. The tumour was universally adherent, but the adhesions were recent and readily gave way. The tube on the left side was found to be diseased and occluded at the fimbriated extremity, and was removed at the same time. Recovery was uneventful.

There are one or two points of interest in the case which call for notice. First, the extraordinary clearness of the history; everything pointing so obviously to the nature of the case that it was impossible to entertain any doubt as to its nature. Menstruation was absent throughout, except a very slight show on one occasion. Secondly, the very large size the cyst attained without rupturing. This, no doubt, was due to the ovum being arrested quite at the fimbriated extremity of the tube; had it been nearer the uterus, rupture must have taken place at a much earlier date.

Dr. BANTOCK said that, as a rule, in cases of tubal pregnancy, rupture occurred before the diagnosis was made, but here this was not the case. Such specimens were rare. He had shown one of this kind, where pregnancy had gone on to full term; and he believed that Dr. Heywood Smith had shown an unruptured tube. The cause of pain before rupture seemed to be the tension of the muscular structure forming the tube. Whether the irritation of the growing ovum was enough to cause the adhesions in Dr. Mansell Moullin's case, or not, he could not say, but he thought it was probable—at least, there did not seem to be any history of inflammation. A parallel was found in the formation of adhesions in the case of ovarian cysts. Dr. Mansell Moullin had not mentioned any high temperature which would account for these adhesions, but perhaps he had some other explanation to offer.

Dr. LEITH NAPIER said that this specimen was an illustration of a fact which had been denied by Lawson Tait, viz., the possibility of the diagnosis of tubal pregnancy before

rupture. As a rule, a tubal pregnancy ruptured before the twelfth week; this specimen, therefore, which was of about that date, represented as late a condition of non-rupture as was possible. Several hæmorrhages might have taken place, however, before rupture was threatened. It did not follow that there would be rise of temperature, but it would be interesting to know if there was any history of symptoms of collapse.

Dr. R. T. SMITH called attention to the thickness of the sac in this case, which was an important condition.

The PRESIDENT said he had perhaps not understood Dr. Mansell Moullin rightly, but from the specimen he gathered that there had been hæmorrhage, whilst he understood from the notes that this was not the case.

Dr. MANSELL MOULLIN replied that there had been hæmorrhage into the cyst itself, but none outside, into the peritoneal cavity. He quite agreed with Dr. Bantock that the tension on the muscular walls of the tube was the cause of the pain, which was the first symptom in this case. The adhesions were all recent, and broke down readily; they were perhaps due to a localised peritonitis, resulting from the presence of a "foreign body," but there was no temperature. There were no symptoms of collapse, because no rupture had taken place.

ANNUAL MEETING.

Treasurer's Report.

Dr. MANSELL MOULLIN presented the Treasurer's Report for the year 1894. He was pleased to announce that the financial condition of the Society was in every way satisfactory, and that the balance sheet did not call for any lengthened explanation from him. A small diminution was apparent in the amount of subscriptions from the Fellows of the Society. This was due to some of them being in arrears with their payments, and would swell the amount on the next occasion.

The British Gynaecological Society.

Dr.		RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING DEC. 31, 1894.		Cr.
		£	s. d.	
To Balance brought forward Dec. 31, 1893	266	16	4	
" Subscriptions	317	5	8	
" Dividends on Investments	10	13	2	
" Interest on Deposit at Bank	0	17	5	
" Advertisements in Journal	39	6	4	
" Use of Room by other Society.	10	10	0	
By Expenses of Journal and Printing				197 18 5
" Rent and Attendance (5 quarters)				159 17 6
" Reporters' Fees				19 8 6
" Drawings				3 3 0
" Type Writing Machine				16 8 0
" Refreshments and Attendance				12 5 5
" Stationery, Postages, &c.				6 11 2
" Hire of Microscopes				0 18 0
" Bank Charges				0 7 1
" Balance at Bank				220 3 10
" Balance in hand				8 8 0
				£645 8 11

We hereby certify that we have examined the above account with the counterfoil receipt books and vouchers in connection therewith, and find it to be correct. We also certify that the Society holds the following securities:—£270 Grand Trunk Railway 4 % Debenture Stock; £5 Caledonian Railway 4 % Preference Stock; and £100 on Deposit Account with the London and County Banking Company, Limited—all in the Treasurer's possession.

HEYWOOD SMITH, M.D., } *Auditors.*
C. H. BENNETT, M.D., }

January 26, 1895.

The greatest economy had been observed and retrenchments effected in various ways, but in spite of these, the expenses connected with the Journal and printing showed a slight increase. No doubt the Fellows would fully appreciate the increased size of the Journal, and the efforts of Dr. Leith Napier, the editor, to maintain it at the highest possible standard of excellency. The other items in the balance sheet were all of small amount, with the exception of that of rent. On this occasion the amount represented rent due for five quarters. This did not mean that payment had been in arrear, but simply that the cheque due at Christmas for the last quarter had been presented at the bank without delay, instead of in the January following, as usual. A sum of £10 10s. had been allowed the Society for the use of its room for a short period. The balance at the end of the year was £228 11s. 10d. The various securities held by the Society were the same as reported the year previously.

The PRESIDENT moved that the best thanks of the Society be given to Dr. Mansell Moullin, and that the Report be adopted. He said that the Society was to be congratulated on having such an excellent treasurer, who was certainly "the right man in the right place." The Report was highly satisfactory.

Dr BANTOCK seconded the motion. He was glad that the finances of the Society were in such a good condition. As a former treasurer he knew something of the arduous and often difficult nature of the post; and he congratulated Dr. Mansell-Moullin on his Report. (Carried with acclamation.)

Dr. Shaw-Mackenzie and Dr. Colenso were nominated by the President as scrutineers of the ballot.

Editor's Report.

In presenting a Journal report on this occasion, it seems almost necessary to explain to the Society why it has been considered desirable to do so.

During the past year, since the appointment of the present

editor, various alterations have been instituted which it is hoped will be recognised as efforts at improving and popularising the Journal. To fully detail these alterations would unduly encroach on the patience of the Fellows present, so that very brief reference will only be made. A Journal Committee has been appointed, consisting of the president, the editor, the secretaries *ex officio*, with three Fellows of the Society. Some eight years ago a Journal Committee, consisting of five Fellows, existed, but since then no committee has been appointed until last year. So many important questions have been discussed by the Journal Committee during the past year, that not only has its re-constitution proved a great direct assistance to the editor, but it has saved the Council much time which would have been occupied in determining details which a smaller body could more effectually do.

The financial affairs of the Journal are dealt with by the treasurer in his report, but it may be permissible to indicate that the selection of a new advertising agent has been fully justified by the increased number of advertisements and the new sources from which these have been derived. The production of a larger journal, containing from 150 to 170 pages, instead of an average number of 128 as formerly, involves increased cost for paper and labour in printing; yet this has been partly, if not wholly, met by an alteration of the paper used for the Journal. A smooth paper with cut edges has been substituted for that formerly used.

Turning now to the literary contents of the publication. It must be pointed out that the material at the disposal of the editor procured from ten annual meetings of the Society is very much less than was formerly obtained from sixteen meetings. Yet even in this respect it is hoped that with fewer meetings, the quality of the papers read before the Society will compensate for a larger number of papers read, which might in some instances have been of more ephemeral nature than those now accepted by the referees.

To take the place of the lapsed six meetings, two sources of supply were open to the management of the Journal:

(1) the insertion of Original Communications; (2) the increase of Reviews and Abstracts from newly published books and from other journals.

Original Communications suitable for publication in the Journal are necessarily somewhat different from communications made in the first instance through the Society, those published in the Journal being probably more academic and prolix than the average communications made to the Society. The Fellows would greatly aid in promoting and maintaining the usefulness of the Journal by submitting such articles to the Editor. Accounts of clinical cases would also form an interesting and valuable addition to the pages.

A very considerable increase of matter has been obtained by giving full analytical reviews of most of the new books published during the year. It is hoped that this method of informing the Fellows of the scope and nature of the various publications will be of service to them, and in part assist the diffusion of a wider general knowledge of the literature pertaining to gynæcology and obstetrics.

But the most important addition to the future possibilities of the Journal is that no less than twelve gentlemen have agreed to act as collaborators with the Editor, whereby it is anticipated that the amount of original abstracting and reviewing done may excel anything attempted in the past. There is no reason why Britain should not possess a gynæcological and obstetrical journal ranking with those of Germany, France and America. By the co-operation of suitable men this should be, ere long, an accomplished fact, and the Editor will not rest satisfied until he has attained this laudable ambition.

The Editor gratefully acknowledges the assistance he has already received, but hopes it is merely a foretaste of that larger and fuller help which is essential for the effecting of greater and better work on his part in the future.

Heretofore the initials only of collaborators and reviewers have been given; it is now intended to append the full names of the collaborators to their several articles.

The Council have, in response to the Journal Committee's request, sanctioned the appointment of a Sub-Editor on conditions clearly laid down by the Council, and at very little additional expense to the Society. Dr. A. E. Giles has been nominated by the Editor for the post. In concluding, it is desirable to state that the time of issue of the Journal, while better in regularity than for the past two or three years, has not been quite so exact as could be desired. Now that the printers and publishers, Messrs. Bale, have returned to their own premises, it is hoped that a stricter regularity will be possible. It must be pointed out, however, that owing to the arrangements for the publication of the proceedings of the Society, the exact date of issue cannot correspond with the nominal date of issue, but must be always at least three weeks later.

January 10, 1895.

LEITH NAPIER, Editor.

The PRESIDENT said they must feel very indebted to Dr. Leith Napier for his able Editorship of the Journal. The Report was a cause of congratulation, both for him and for themselves. He believed that all who received the Journal had felt that the new departure was desirable and was successful. He moved the adoption of the Report.

Dr. CLEMENT GODSON seconded the motion, which was carried with acclamation.

The scrutineers then handed in the result of the ballot, which was as follows:—

Honorary President.—R. Barnes, M.D., F.R.C.P.

President.—Clement Godson, M.D., M.R.C.P.

Vice-Presidents.—G. Apostoli, M.D., Paris ; A. H. Freeland Barbour, M.D., Edinburgh ; F. C. Batchelor, M.D., Dunedin ; C. H. Bennett, M.D., London ; H. Macnaughton Jones, M.D., London ; Leith Napier, M.D., London ; A. A. Rasch, M.D., London ; J. W. Taylor, F.R.C.S., Birmingham ; J. Wallace, M.D., Liverpool ; W. Gill Wylie, M.D., New York.

Treasurer.—J. A. Mansell Moullin, M.D., London.

Librarian.—George Granville Bantock, M.D., London.

Council.—Dudley W. Buxton, M.D., London ; Professor J. W. Byers, M.D., Belfast ; T. Kilner Clarke, F.R.C.S., Huddersfield ; G. Cleghorn, M.D., New Zealand ; Wm. Dingley, M.R.C.S., London ; T. B. Grimsdale, M.B., Liverpool ; R. H. Hodgson, M.R.C.S., London ; F. Bowreman Jessett, F.R.C.S., London ; Lewis Jones, M.D., London ; J. Macpherson Lawrie, M.D., Weymouth ; Henry Lewis, M.D., Folkestone ; E. Holland, M.D., F.R.C.S., London ; J. J. Macan, M.A., M.D., London ; J. A. Shaw-Mackenzie, M.B., London ; H. W. Maunsell, M.D., London ; H. Michie, M.B., Nottingham ; J. R. Morrison, F.R.C.S., Newcastle ; F. A. Purcell, M.D., London ; A. W. Mayo Robson, F.R.C.S., Leeds ; Professor A. R. Simpson, M.D., Edinburgh ; W. Travers, M.D., F.R.C.S., London ; A. Wallace, M.D., London ; T. Savage, M.D., F.R.C.S., Birmingham ; S. Sunderland, M.D., London.

Editor of the Journal.—Leith Napier, M.D., F.R.S.Ed.

Honorary Secretaries.—F. F. Schacht, M.D., London ; John Shaw, M.D., London.

Dr. MACNAUGHTON JONES, in moving a hearty vote of thanks to the retiring officers, said, that anyone looking down the list must be struck by the fact that this Society was represented by prominent obstetricians and gynæcologists all over the United Kingdom, as well as in America and on the continent. About some of the officers, on whom had fallen the brunt of the work, he must say a few words. The treasurer's office was one of the most disagreeable, and they must feel very thankful to Dr. Mansell Moullin for so ably filling the post. Dr. Bantock's name was so closely associated with the Society, that if it were not on the list it would hardly seem the same Society.

He had noticed with pleasure the changes in the Journal, and he agreed with Dr. Leith Napier that this Society ought to be able to give as good an account of itself as any other in the world. Hitherto the work it had done was a credit to the United Kingdom. They had competitors abroad, and especially in America, with whom it was hard to keep pace, but he believed that with Dr. Leith Napier as their editor

they would have a Journal which would be fully up to the level of any other journal.

Though Dr. Leith Napier was leaving his post as secretary, he continued as editor, so he was, happily, not one of the "retiring" officers. All the Fellows would rejoice that Dr. Schacht was continuing his secretarial work; they had had ample experience of his unvarying courtesy and ability. Dr. Shaw was about to begin the work, and he would certainly give a good account of himself. He felt sure all the Fellows would return thanks to those who had carried on the work of the Society so well during the past year.

Dr. R. T. SMITH said he had much pleasure in seconding the motion. With regard to Dr. Leith Napier, it would be remembered that it was he who originally suggested the Society dinners, at which they were able to meet socially. He cordially agreed with Dr. Leith Napier's modifications of the Journal. The record of clinical cases would be especially valuable. For example, he did not remember having seen anywhere records of cases of hæmorrhage into the broad ligaments subsequent to abdominal section. Another retiring officer deserved special mention, namely Dr. Heywood Smith, who had done so much for the Society. He believed it was the first time that Dr. Heywood Smith's name did not appear at all in the list of officers.

Dr. LEITH NAPIER replied to the vote of thanks at the request of the President. He thanked the Fellows for the kind and generous way in which they had recognised the work of the officers, and took the opportunity of referring to the good work done in the Council by Dr. Heywood Smith. He had been most regular in his attendance, and it was a source of regret to the Council that the constitution of the Society did not allow of his continuance. As a Fellow, and as a collaborator, Dr. Heywood Smith would, however, be with them still.

As secretary for two years he had served under two Presidents, and wished to express the pleasure he had had in each association. He congratulated the Society on

retaining the services of Dr. Schacht as senior secretary. His relations with Dr. Schacht as co-secretary had been most amicable, and he regarded Dr. Schacht as a singularly good example of the *suaviter in modo, fortiter in re*. He urged the Fellows to give to the secretaries their hearty co-operation, by contributions of work, by showing specimens, and, in any case, by their presence at the meetings. Great efforts had been made to render the meetings practical rather than simply academical, so that general practitioners might feel that the Society was for them also. They had discouraged the mere showing of rare specimens and of results of major operations. By this means the field was open to all. They did not wish to be known as simply a Society of narrow gynæcologists, and if they had a weak side, it was that they were still regarded in some measure as exhibitors of large fibroids and diseased tubes.

Dr. HEYWOOD SMITH also thanked the Fellows for the kind way in which they had referred to and appreciated his services.

Auditors.

The PRESIDENT moved that Drs. Bennett and Heywood Smith be appointed auditors for the ensuing year; that they be requested to continue in office till the following year; and that the President have the power to fill up any vacancy that might arise.

This was seconded by Dr. MACNAUGHTON JONES, and carried.

VALEDICTORY ADDRESS

By Professor THOMAS SAVAGE, M.D., F.R.C.S.Eng.

FELLOWS AND GENTLEMEN,—As my last official act, I have now to make a demand upon your patience in the delivery of a few brief remarks upon the work of the Society during the year just closed. In the first place, I desire to acknowledge to the fullest extent the extreme courtesy and

kindness which have been accorded to me during my year of office—a kindness which has been exhibited both by the Fellows individually and also by the officers. In this latter connection I can but refer to the honorary secretaries, and it is solely to their extreme courtesy and assiduity that the affairs of the Society have run as smoothly as they have done, for with a President who is non-resident in London, who of necessity cannot do much more than preside, almost the whole burden of administration is thrown upon the secretaries; and they, during the past year, have most ably and loyally carried out their extra imposed duties.

While the year has been to some extent an uneventful one, it has, at all events, been a useful one. No burning questions, either of ethics or treatment, have agitated us, while, at the same time, we have been steadily pursuing the objects for which we exist, and, I think, with distinct benefit to those who have taken part in the discussions, and been present at the meetings. A considerable number of specimens have been exhibited, some of much merit and rarity, and the discussions upon all of them have been marked by care, research, and experience. In the exhibition of a specimen, I take it that it should be the aim of the exhibitor to introduce it in as brief, though clear a manner as possible, only relating just those details which are pertinent to the peculiarities or special features of the case, and not by any means allowing his remarks to partake of the nature of a set paper or discourse. By so doing much valuable time is saved, and thereby opportunity given for other specimens to be shown and discussed within the allotted period. It has appeared to me, sitting in this chair, and somewhat, as it were, in the position of an outsider, that we have ourselves committed the mistake alluded to on one or two occasions. This plan of reading out a long list of unnecessary details, or even making the occasion the opportunity of reading what almost amounts to a paper, when a very few words would have sufficed to draw the attention of the meeting to the special features of the specimen, is not, in my opinion, a good

one. I know that on several occasions more specimens would have been shown if there had been opportunity, and the time allotted had not been too much absorbed by too prolix and irrelevant remarks.

Dr. Macnaughton Jones read an interesting paper entitled "A Question of Importance in Forensic Medicine relating to the Hymen," directing, among other things, special attention to a folding condition of the uninjured hymen, which may co-exist with frequent sexual intercourse.

Dr. Routh read a most exhaustive paper on "The Conservative Treatment of Diseases of the Uterine Appendages." In it he discussed the subject from the non-operative standpoint, adducing reasons and advancing methods of treatment which to many gynæcologists, of what may be called the more advanced school, are now considered as belonging to a time gone by. The discussion upon this paper was felt to be so important that it was continued to another meeting, and was joined in by a considerable number of Fellows. Dr. Routh's paper was characterised by a very large amount of knowledge and research.

At the June meeting the paper was read by Dr. J. W. Taylor, in which he stated that intra-peritoneal hæmatocele is often limited or circumscribed, and is then most commonly the result of hæmorrhage from the fimbriated end of a Fallopian tube, which contains an unruptured mole of pregnancy. Such hæmatoceles derive a considerable portion of their covering from the outer layer of the blood-clot itself, and in a few cases a complete capsule is formed by this alone. The hæmatocele (consisting of blood-clot and capsule) may then be gently separated from surrounding structures, and removed entire, like an independent cyst. The relations of the tube to the hæmatocele, and the classification of the latter, were fully considered. The subject was also illustrated by cases and original sketches. These views of Dr. Taylor are confirmed and supported by some independent observations and recent writings of Professor Sänger, of Leipzig. In the discussion which followed, in addition to our own

Fellows, Dr. C. J. Cullingworth gave us the benefit of his views upon this interesting and not fully explored subject.

One of our Fellows, Dr. Shaw Mackenzie, has been devoting a good deal of time, and with good results, to the elimination of some of the difficulties connected with extra-uterine gestation.

A short but interesting paper was contributed by Professor Krantz upon "The Rare Condition of Lymphangiectasis of the Omentum, marked by the Presence of a Cyst."

The question of the treatment of myomata of the uterus complicating pregnancy (with cases) was raised by Mr. Bowreman Jessett, and the view generally held seemed to be that in pedunculated, sub-peritoneal, and interstitial myomata of considerable size, surgical interference is indicated, chiefly by way of abdominal section, and that if the growths are limited to the cervix, the case may be allowed to go to full term, and the growth enucleated or removed piecemeal. This paper was followed by perhaps the best discussion of the year.

The specimens shown have been, as before said, fair in number and particularly good in variety and nature, so as to illustrate the particular points they were intended to exemplify ; especially has this been the case with specimens of carcinoma of the uterus, and, as a natural consequence, the subject of vaginal extirpation for this disease has been more than once under consideration. By this means both the operative details and the cases suitable for operation have been clearly set forth, and, to a large extent, agreed upon.

There has been very little said or done during the year in regard to ventrofixation of the uterus for displacement. Is it because it is not regarded with so much favour as in the previous year? There is doubtless a good number of gynaecologists who consider that, if not altogether unjustifiable, the cases must be very rare indeed in which an affection, involving no danger to life, should be treated by an operation which cannot be undertaken without some risk even in the hands of the most expert.

I hope during the coming session this subject will receive the attention which is its due.

The frequency with which insanity occurs after removal of the uterine appendages, or after other abdominal operations, is still a very unknown quantity, and most operators appear to have but vague notions as to the relation between the operation and the mental aberration as to cause and effect. An inquiry into this subject would be both valuable and interesting.

Then, again, the frequent association of uterine myoma with a cystic condition of the ovaries is a well-ascertained empirical fact ; but, I take it, little has been made out, of recent years, to help us to understand if and why there is a distinct relation between the two conditions.

Many other subjects will suggest themselves to the minds of the inquiring and ever-restless gynæcologist, and will doubtless be evolved in practical shape in due course. For gynæcology, like her sister departments in medicine, resembles that voracious appetite which is said to grow by what it feeds upon. The more we know and do only seems to demonstrate how much more there is to know and do still.

The number of our ordinary Fellows at the commencement of 1894 was 448, and thirty-five new Fellows have been elected during the year. There must always be a certain loss on the debit side, by resignations and death. Of the latter list, much as we must regret the loss of all who are gone, I cannot refrain from singling out one name for a brief notice. We have lost William Goodell of Philadelphia. Dr. Goodell was the son of a clergyman, and was born in Malta sixty-five years ago. He graduated in 1852, and spent nearly the whole of his medical life in the study and practice of obstetrics and gynæcology. He was a Professor in the University of Pennsylvania, to which he has bequeathed a considerable sum for its advancement. His writings are marked by the strength that comes of knowledge, by vigour, and by an honest desire for the truth. Although I never met him, yet it was my privilege a few

years ago to have a short correspondence with him, and I was then much struck with his learning and culture. Our accomplished editor has paid a graceful tribute to his memory in the last number of the Journal. From the locality of his birth he may be claimed almost as much a British as an American citizen.

It is hoped that the new form in which the Journal appears will commend itself to the Fellows; encouragement will be given to the publication of original communications from those who from any cause are unable to read their papers at the ordinary meetings.

As the annual meeting of the British Medical Association will be held in London during the present year, it is to be hoped, as it is expected, that a large contingent of our foreign *confrères*, as well as those of our own country, will foregather on this occasion, and it is in contemplation to have a special social gathering of the Society to meet our distinguished brethren.

Gentlemen, the success of this Society in the past has been unprecedented, and now at the end of ten years, with our finances in a flourishing condition, an ably conducted Journal, and a band of zealous and enthusiastic workers, the future has little to make it afraid.

My last word is one of congratulation that the chair for the next twelve months is to be occupied by the gentleman whom you have to-night chosen as your President. Dr. Clement Godson will bring to the duties of the office an energy and a knowledge of his subject which have not been exceeded by any previous occupant of this distinguished position, and the traditions of the Society will be handed down to his successor unimpaired.

We are also happy in that we have retained the services of our treasurer, and of Dr. Leith Napier to conduct the Journal. The secretarial duties will be ably performed by Dr. Schacht and his newly elected colleague (Dr. John Shaw).

Dr. ROUTH said he had been asked to do that which

was a great pleasure, namely, to thank the President for his oration, which was characterised by a grace and dignity of style which it would be hard to equal. A great deal in that oration was expressed in a very few words, forming a commentary on one part of the address. They were proud that Professor Savage joined their ranks in the first place; and whatever they had read and heard about him—for his reputation in the provinces was great—had been greatly enhanced by what they had heard from him while in their midst, and by the way he had directed the Society from the presidential chair. His election to the chair had been hailed with satisfaction by the profession in all Britain; and he would leave it carrying with him the good feeling of all the Fellows of the Society.

Dr. BANTOCK said that to add anything to the tribute which Dr. Routh had paid to their President would be a work of supererogation; but this at least he might say, that the Society had been very fortunate in its President. He had conducted the affairs of the Society well; he had dispensed hospitality with grace, and had kept together the Fellows in a way not attained before. He seconded the vote of thanks to the President for his address, coupling with this the request that he would allow the address to be printed in the Transactions.

The PRESIDENT thanked Dr. Routh and Dr. Bantock for their kind words, and the Fellows for the way they had received them. He had felt it an honour to preside over the Society; he had made many acquaintances and some friends, and had cemented some friendships of older date. He wished also to express his appreciation of the kindness he had received on all hands during his year of office.

ORIGINAL COMMUNICATION.

ETHER AS AN ANÆSTHETIC.

By F. F. SCHACHT, B.A., M.D.Cantab.

THE subject of anæsthetics has during the last few years received a large amount of attention. A commission has reported, discussions have taken place, letters have been written, but opinion is, nevertheless, still divided as to which should be looked upon as the "routine anæsthetic." It is true that some object to any *one* being regarded as a "routine anæsthetic," holding, as they do, that each case should be taken on its own merits, and that anæsthetic given which is most suited to it. That theory argues on the supposition that the anæsthetics themselves are equally harmless or harmful, and that the risks to be run are simply those which may arise out of the special idiosyncrasies of the patients. If, however, an anæsthetist does consider (as most do) one anæsthetic distinctly safer than another, that one must become with him a "routine anæsthetic," exception being made to it only in special cases. The report of the Hyderabad Commission has brought matters to a head. That report is not only in itself an expression of opinion as the result of the Commission's labours, but it has stimulated every specialist to add his quota to the discussion.

The result so far, though satisfactory to many individual minds, is incomplete, and must be so until practical experience, as evidenced by reliable statistics, has proved or disproved the contending claims. These physiological theories and experiments, however attractive they may be, must, of course, bear the test of clinical observation and experience

before they can be accepted finally by the practical surgeon. It is, therefore, reasonable to anticipate much from the report of the Anæsthetic Commission of the British Medical Association, seeing that it will be based on the result of a year's observations on the practical application of the latest theories. Meanwhile it is impossible to avoid noticing the frequent heading of "Deaths under Anæsthetics" in our journals, notwithstanding the fact that all the world has been duly informed as to how both chloroform and ether should be given. I find in going through the files of the *British Medical Journal* for the last four years, 1891-92-93-94, 124 deaths attributed to chloroform and 15 to ether. The possibility of manipulating such statistics unfairly is of course obvious. In the first place this list does not necessarily represent the number of deaths that did occur; secondly, the number of administrations of either chloroform or ether is not known, and it is quite impossible, therefore, to say what percentage of deaths these figures imply. Again, the habit of giving chloroform in some places, and ether in others, adds an uncertain feature to any calculation. It is generally admitted that in England ether has the most ardent supporters. In London it would, I imagine, be fair to suppose that ether is used more often than chloroform.

Out of the 124 deaths under chloroform, 95 occurred in England, and of these 95, 29 are credited to London.

Of the 15 deaths under ether, 11 took place in England, and of these 5 occurred in London. Isolating London, therefore, where we know that for ordinary surgical proceedings ether is given more frequently than chloroform, we have the bare fact of 5 deaths from the one anæsthetic and 29 from the other, *i.e.*, a proportion of 1 to 6 in favour of the anæsthetic more frequently used. This in itself is sufficiently worthy of careful consideration even though accurate figures may be wanting. The inquests which such accidents necessitate are carefully chronicled in towns like London, and have, no doubt, nearly all come to the notice of the journals.

There are several considerations which would whittle away

a good many of these deaths from the list of those said to be due to either anæsthetic ; thus in various cases I notice death occurred some hours after the patient had recovered partial consciousness. In such, and in many very bad cases it is not always fair to throw all the blame on either chloroform or ether and none on the operation itself ; nor, again, in others is it certain that any advantage would have been gained by employing any other anæsthetic than the one used. Such arguments apply equally to both chloroform and ether, but though they may reduce the numbers, there is no reason to suppose that they would alter the relative proportions, and 15 to 124 or 5 to 29 is so marked a difference that it behoves every medical man to look at it very seriously. After all that has been said and written I do not propose to enter into the vexed question connected with the respiratory and cardiac centres as bearing upon either anæsthetic. The practical anæsthetist should be on the alert for every symptom indicative of failure ; to omit to pay careful attention to either the respiration or pulse because of any preconceived theories seems to me to be simply courting disaster. Whether the one centre is first poisoned or the other is certainly a matter of physiological interest, but as in disastrous cases the one follows the other so very rapidly the question of importance is not which centre is first affected, but which of these anæsthetics is less likely to kill any particular patient.

Indian experience and experiments have no doubt thrown strong light on chloroform itself and its effect in a hot country. But I fancy sufficient stress has not been laid on the fact that what applies to India need by no means apply to England, and that the same reason that prevents the use of ether in India may very probably account for the apparent safety of chloroform.

Ether with a boiling point of 34.5° F. cannot be used in India, whereas chloroform which boils at 62° F. can. Now, I quite believe that in this really lies the reason for the relative safety of ether in England. It is much more easily eliminated from the system when an overdose is taken. Whether much

or little has been administered, respiratory or cardiac failure indicates an overdose, and the chances of bringing an overdosed patient round depend largely upon the rapidity with which the poison can be eliminated. In England ether has a great pull over chloroform in this respect. In India chloroform would be largely freed from this difficulty, and, certainly, there has no rival as an anæsthetic.

It seems to me, therefore, that the report of the Hyderabad Commission may be the means of doing some harm instead of good in this country by cultivating a sense of false security. No doubt an improved knowledge of how to administer any anæsthetic must, to a certain degree, lessen the attendant risks, and chloroform in skilled hands may be safer than the mortality indicates; but a large proportion of those who are called upon to administer chloroform or ether are not skilled anæsthetists, and it were far better that such should, as a rule, use ether.

And what is this mortality in London of 5 deaths during four years under ether? Here there are eighty-two hospitals, &c., where operations are performed. At children's hospitals and midwifery institutions chloroform is usually given: these number twenty-seven, so that there remain fifty-five hospitals where anæsthetics are largely used, and ether far more than chloroform.

There is no collective record, I believe, of how many administrations take place in these institutions, and in private practice. It has been asserted, by one authority, that 500 administrations of ether is the daily average. Allowing, however, 350 a day to ether, there would be 3,100 a week, 109,200 a year, or in four years 436,800. Five deaths in 436,800 would be 1 in 87,360. Such a small percentage of risk is further reduced by noting the details of the fatal cases themselves. The following is a complete list of the recorded deaths under ether during the time mentioned:—

DEATHS UNDER ETHER. (*British Medical Journal*.)

(1) "But it is not only chloroform that is responsible for these fatal accidents in America. On October 30, a man

died in the Brooklyn City Hospital whilst under the influence of ether, which had been given as a preliminary to a surgical operation. Only four drachms of ether had been used when death occurred."—*B. M. J.*, vol. i., p. 30, 1891.

(2) "Meanwhile, we avail ourselves of the notice which appears in the *Manchester Courier* of January 1, of a case which came last week under the notice of the Stockport coroner. The case, as reported, was that of a lady, aged 44, who had entered the Stockport Infirmary in order to undergo an operation for cancer. Dr. Edwin Rayner, under whose superintendence the arrangements for the intended operation were made, in the presence of three other medical men, said there was a sudden stoppage of the pulse. He at once applied every means for artificial respiration, but without effect, and death took place in less than a minute from failure of the heart's action. Dr. Rayner said he had examined deceased's heart prior to ether being administered, and it was then sound. The operation was never commenced, as she was never completely under the influence of the ether. There had never been a case of death taking place under ether at that institution before. The coroner said that the jury must be satisfied that the ether was administered properly, and that there had been no gross carelessness. To this the jury agreed, and a verdict of failure of the heart's action whilst ether was being administered was returned."—*Ibid.*, p. 80.

(3) "On Tuesday, April 14, I administered ether to a man for a medical man in private practice. The operation was for the relief of an over-distended bladder, with extravasation of urine into the scrotum and surrounding region.

"The patient, A. L., aged 46, had been in a feeble state of health for a considerable time. He was all his life a hard drinker. Since August he had been confined to his room suffering from a tight stricture of the urethra. This he had neglected, refusing any treatment for its relief, as I am told, up to the time of the operation. His heart was hypertrophied. On auscultation double aortic and mitral murmurs could be heard; the pulse was feeble and irregular; the chest was

barrel-shaped from emphysema, but at the time of the operation there was little or no cough. From an enormously dilated bladder, which extended upwards to his umbilicus, alkaline urine was continuously dribbling away. The penis and scrotum were greatly swollen, and were almost gangrenous from extravasation. It was for the relief of this condition and with the patient's full consent that an operation was decided upon. Prior to the operation a consultation was held, and it was decided to administer ether in preference to chloroform. Clover's inhaler was used, and the anæsthetic cautiously administered. There was little or no struggling; the breathing was slow but not laboured. After about five minutes' inhalation, and before the operation was commenced, I noticed his pulse suddenly becoming very feeble, hardly perceptible at the wrist; the lips were pale, and the breathing gasping; his pupils at this time were normal, and the conjunctiva sensitive.

"The ether was at once discontinued, his tongue drawn forward, the cardiac area and chest were stimulated, and artificial respiration was resorted to. The dusky pallor, however, increased in spite of all our attempts, and although artificial respiration was continued for three-quarters of an hour, we failed to bring him round.

"The patient positively refused to have anything done without an anæsthetic, although asked to do so. No *post-mortem* examination was allowed. — L. MCWHANNELL, House-Surgeon, Borough Hospital, Birkenhead."—*Ibid.*, p. 1017.

(4) 'L. B., aged 43, was suffering from a large sloughing fibroid of the uterus, and was rather anæmic.

"*July 30.*—Patient was given gas and ether from Clover's small apparatus for about half an hour, for the purpose of examining the tumour. She took it well, but did not require as much as usual to keep her under.

"*August 1.*—Gas and ether were administered for two and a-half hours, during which time a portion of the tumour was removed *per vaginam*.

"August 3.—Patient was in a rather weak state. The pulse was between 120 and 130, small and very readily compressible. The temperature was above normal. On the previous night it was 102·4° F. The chest was examined on the night before the final operation, but nothing abnormal found.

"The patient was at first given nitrous oxide gas, from Clover's small apparatus. Ether was gradually turned on. She took the anæsthetic readily, breathing well; and, as on the previous occasion, required very little. At no time did she have more than half ether, and during the greater part of the time she was taking a little over the quarter, the mask being removed frequently. After about fifteen minutes the breathing became rather shallow, the pulse keeping the same as at the start. The administration was therefore stopped. For about the next five to seven minutes the breathing and the pulse remained about the same, and the face was pale; but at the end of that time the breathing became gradually shallower and gasping, but the pulse held out, although feeble.

"Artificial respiration was started to assist the voluntary movement, the head being lowered. Brandy was given *per rectum*, but the voluntary respiratory movement became slower and weaker. The pulse did not fail until respiration had almost ceased. The face was pale throughout, but just before artificial respiration was started there was some cyanosis about the lips. There was no obstruction to the entrance of air into the chest. Artificial respiration was continued for about ten minutes, at the end of which time no heart sounds were audible. About 3j of ether was used.

"The coroner spoke of the *comparatively small number of deaths under ether as compared with those under chloroform*, and said it was satisfactory to find that *only one patient out of 5,000 to whom anæsthetics were administered died under their influence*. The jury found a verdict in accordance with the facts."—*Ibid.*, vol. ii., p. 424.

(5) "A death from ether is reported in the *Occidental*

Medical Times, August, 1891. The patient was a woman, aged 41, who was admitted to the San Francisco Hospital for Women and Children on account of a fibroid tumour in the interior of the uterus. Small fibroids had been removed while under the influence of ether on two previous occasions. When the third operation was undertaken the patient was very anæmic, but the heart, lungs and kidneys were in good condition. A quarter of an hour before the operation she was given a teaspoonful of aromatic spirits of ammonia and a teaspoonful of whisky. Ether was administered on a towel folded into a cone. Insensibility had been maintained for twenty-five minutes, and the vagina had been irrigated and the cervix dilated, when it was noticed that the heart was acting feebly. Ten minims of tincture of digitalis, and a like quantity of tincture of nux vomica was given by hypodermic injection, and the head was lowered. Artificial respiration was maintained for an hour, but death apparently occurred within five minutes of the first sign of heart failure. A few weak respiratory efforts were made after the heart stopped."—*Ibid.*, p. 706.

(6) "The *New York Medical Record* of September 19 announces the occurrence of a death from ether in that city on September 9. The patient was a man, aged 50, who was about to undergo an operation for a tumour in the side. His heart was examined before the anæsthetic was administered, and nothing abnormal was detected."—*Ibid.*, p. 757.

(7) "A. P., aged 36, was admitted with strangulated hernia, having been ill with influenza for three days. Palliative measures, as opium, ice, &c., failing to reduce the hernia, ether was administered in Clover's inhaler. The heart on auscultation being found weak and the patient prostrated, the anæsthetic (preferably ether) was given with greater care and caution. Taxis failing, herniotomy was proceeded with. After the patient had been under for fifteen minutes, he vomited a quantity of stercoraceous matter, his face became pallid, cheeks bluish, and his breathing laboured. His pulse was of good volume, and distinctly improved since the commencement of the ether.

"The operation having been successfully completed, it was noted that although the pulse was still good and the breathing fairly so, the man did not rally, that he remained unconscious and pallid, and did not come out of the ether satisfactorily. Restoratives were applied, ether subcutaneously injected, and artificial respiration resorted to. He suddenly vomited again, and died three hours after the completion of the operation. *Post-mortem* examination showed no organic lesion to the heart or lungs; the left ventricle was empty, the right full of dark blood. A coroner's inquest was held, and in accordance with the medical evidence death was considered due to 'syncope' following on influenza and the shock of strangulated hernia."—*Ibid.*, 1892, vol. ii., p. 70.

(8) "A death under ether is reported from Bath. The patient, a man, aged 37, was admitted into the Royal United Hospital suffering from strangulated inguinal hernia. He was in a very collapsed state, and brandy was given before Dr. Biddlecombe, the resident medical officer, administered ether. He struggled a good deal in taking the anæsthetic. Scarcely had the operation been begun when Dr. Biddlecombe noticed that the man had ceased to breathe. Every effort to resuscitate the patient was ineffectual. We are promised full details of the case for publication at a later date."—*Ibid.*, p. 316.

(9) "On Thursday, September 29, a man aged about 30 was admitted to St. Mary's Hospital suffering from alveolar abscess, with extensive and deep-seated cellulitis of the neck. He had been unable to swallow food except a little milk for several days; he breathed with difficulty, and could scarcely speak. His temperature was 101·8°. It was deemed advisable to operate at once; so he was taken to the theatre, and ether was administered, as he was in a weak state, and very nervous. He took the ether badly, and when about an ounce had been given he began to get blue; the anæsthetic was stopped, his tongue pulled forward, and the head turned. He got rapidly more and more blue, and ceased to breathe. Artificial respiration was performed for about twenty minutes,

and hypodermic injections of brandy and strychnine were administered, and the battery applied, but all to no purpose. The heart continued to beat after the cessation of respiration. *Post-mortem* examination proved extreme congestion of the larynx and respiratory passages, as well as of the lungs, and the trachea was much constricted by a deep-seated abscess in the neck."—*Ibid.*, p. 964.

(10) "We have received from Dr. Slade Baker the following report of a case of death under ether at the Abingdon Cottage Hospital :

"M. G., a married woman, aged 47 years, was admitted into the Abingdon Cottage Hospital on January 11, with strangulated femoral hernia. She was a well nourished, somewhat stout, florid woman, without any previous history of illness. She had had eight children, the youngest seven years old, and her husband was then away at a convalescent home for consumption. Ether was administered by means of a Clover inhaler, half an ounce being used. She took the ether well for the first twenty minutes, and then she suddenly became purple, and all respiration ceased. Artificial respiration was at once performed, and the patient in about two minutes commenced to breathe again. The operation was completed without any more ether being given. She was taken back to bed at 3.30, but was still rather dark in colour. She was seen by Dr. Baker half an hour after the operation. She was then breathing fairly well. The colour was improving, and the pulse was good (90). She was roused, and spoke to the nurse. Soon after the patient became darker in appearance, with laboured respiration, and she died somewhat suddenly about two hours after the operation. A *post-mortem* examination was not allowed."—*Ibid.*, 1893, vol. i., p. 137.

(11) "The American medical papers contain particulars of the death of Colonel F. Shepard, editor and proprietor of the New York *Mail and Express*, on March 25, while ether was being administered, prior to surgical examination with a view to operation. Dr. Charles McBurney proposed to sound the bladder for stone, and, no organic disease having been

detected on physical examination by Dr. J. W. M'Lane, ether was administered. Before complete anæsthesia had been induced, however, the patient's respiration and pulse began to fail. Tracheotomy was performed, an india-rubber tube was introduced into the trachea, oxygen was given, and other means of restoration were employed, but all to no purpose, Colonel Shepard died four hours after the administration of ether was commenced. No *post-mortem* examination seems to have been made, but Drs. McLane and McBurney expressed the belief that the patient 'died of sudden œdema and congestion of the lungs following the administration of ether, but primarily due to some cause unknown to us.' It now appears (according to the *Boston Medical and Surgical Journal*, April 6) that some three years ago a large life insurance company refused Colonel Shepard on the ground that there were indications of incipient Bright's disease. He was, however, accepted by another prominent company some time afterwards."—*Ibid.*, p. 877.

(12) "We have received the following account of a death during the administration of ether by Mr. Arthur Chilcott, Assistant Medical Officer at St. Mary Abbots Infirmary. The patient, a man aged 56, was admitted into the infirmary suffering from laryngeal obstruction, which subsequently necessitated tracheotomy. Ether was administered by means of Clover's inhaler, the indicator never being turned beyond No. 1. The pulse improved at first, but after from four to five minutes it became weaker and slower; the anæsthetic was discontinued, but the heart's action ceased; respiration occurred after the pulse had ceased, there were no signs of asphyxia, and the countenance was pale. The medical superintendent did not perform the operation, as the symptoms pointed to syncope rather than to asphyxia. Every means, including galvanism, artificial respiration, and subcutaneous injection of ether were tried, but in vain. At the *post-mortem* examination the heart was found to be pale, enlarged, and flabby, showing signs of fatty degeneration. There was some dilatation and considerable atheroma of the thoracic

aorta, the larynx was œdematous ; all other organs were healthy. In consequence of the patient being very nervous and difficult to manage, a general anæsthetic was considered desirable, as distinguished from a local one—for example, cocaine ; and having regard to the weak condition of the heart ether was chosen in preference to chloroform. The case is at once interesting and obscure in that death occurred during the inhalation of ether, apparently from syncope.”—*Ibid.*, p. 917.

(13) “ We are indebted to Mr. Walter Thompson, Resident Surgical Officer to the Leeds Infirmary, for the following notes of a case of death during the administration of ether, which recently occurred in that institution.

“ M. K., aged 52, was admitted into the Leeds Infirmary on August 23, suffering from malignant disease of the rectum. He was a thin, nervous and rather weak man. On August 30 inguinal colotomy was performed. Ether was administered in a Clover’s inhaler ; about 3ij were given. The man took the anæsthetic very well, and went on favourably after the operation. On September 13 ether was again administered, Mr. Littlewood intending to do proctectomy. The patient took the anæsthetic without the least struggling. He was fixed in the lithotomy position, the perineum was shaved, and the rectum well washed out through the colotomy opening ; this occupied half an hour. Just before finishing, the patient stopped breathing for about twenty seconds, but did not become livid. He went on breathing again quietly and easily for three minutes, and then suddenly stopped breathing and became cyanosed. The ether was finally discontinued. The tongue was drawn well forwards, the patient placed flat upon the table, and artificial respiration performed for two minutes, and strong liquor ammoniæ applied to the nostrils. He began to breathe freely again, and continued to do so for a minute and a-half, and the lips regained their normal colour. The femoral pulse was full, regular, and strong the whole of this time. Now the pulse suddenly failed, and respiration stopped about the same time ; he became livid. Artificial respiration

was again commenced, and continued for twenty-five minutes. Hypodermic injections of brandy were administered, towels wrung out in hot water applied to the precordium and strong liquor ammoniæ to the nostrils, with faradism to the phrenics, without effect. The *post-mortem* examination, made on the following day, showed some congestion at the base of the right and the apex of the left lung; the right lung was adherent at its base. All the cavities of the heart contained blood. There was a little thickening of the base of the mitral valve, but it was quite competent. The capsules of the kidneys peeled easily; the kidney substance felt leathery. The other organs were healthy. During life there had been a slight trace of albumen in the urine, but no sugar. ʒij ʒij of ether were given in a Clover's inhaler; the pointer was gradually turned to $2\frac{1}{2}$; when the patient was fully under the anæsthetic it was turned back to 1, after that it was never higher. The time from the beginning of administration until the patient finally stopped breathing was thirty-five minutes." —*Ibid.*, vol. ii., p. 97.

(14) "We are indebted to Dr. W. Steer, Medical Superintendent of the Fulham Union Infirmary, for the following report of a case of death under ether, which occurred at that institution on August 2, 1893.

"A. V., a man aged 48, was admitted suffering from a chronic ulcer, of a specific nature, on the left leg, situated just above the inner malleolus. Under treatment this almost entirely healed up, when it suddenly assumed an unhealthy appearance, the skin around becoming livid and then gangrenous. About this time he complained of great pain in the ulcer and foot generally, and in a few days the toes became cold and blackened, and very soon the anterior part of the foot became the seat of well-marked dry gangrene. Arterial obstruction was diagnosed, and as soon as the line of demarcation was pronounced the patient was placed under ether, and the leg amputated a hand's breadth below the knee. He made a good recovery from the operation, and for a time did well, but subsequently gangrene recurred in the flaps, the

knee-joint also became red and tender, the temperature assumed a hectic type, and at the patient's urgent request it was decided to give him a chance of recovering by amputating through the thigh. On November 25 he was again placed under an anæsthetic. Ether was given, but a little chloroform was administered at the outset in order to hasten anæsthesia, then the ether was resumed, and maintained throughout the operation. The anæsthetic, administered from a Clover's inhaler, was taken fairly well. The operation was concluded with the exception of the insertion of the last few sutures, when Mr. Shepherd, who had charge of the anæsthetic, noticed simultaneously with Dr. Steer that the respirations suddenly ceased. The head was immediately lowered, the tongue drawn well forward, and held in that position; hot flannels and galvanism were applied to the region of the heart, while artificial respiration was performed for fully half an hour, then, as there was no sign of restoration of either the circulation or the respiration, these restorative measures were abandoned. The patient had not inhaled any anæsthetic for some minutes prior to the arrest of respiration, the inhaler having been removed from the face after the first stitch was inserted; it was noticed that the pulse failed almost as soon as the respiration. A *post-mortem* examination was made, but it revealed no marked disease of internal organs except the heart and liver. The heart was large and flabby, weighing twelve ounces; its anterior surface was covered with a fairly thick layer of fat. On section the heart muscle was pale, its consistence was diminished, being rather friable; there was evidence of commencing fatty degeneration. There was no atheroma of the aorta, or of other vessels, but the aortic cusp of the mitral valve showed a small patch of atheroma. The liver was large, weighing sixty-four ounces, its surface and section were pale, and it showed well-marked signs of fatty degeneration throughout."—*Ibid.*, p. 1444.

(15) "Dr. H. R. Smith, Resident Medical Officer to the University College Hospital, has favoured us with the following report of a case of death under ether which occurred at that

hospital. The patient, a man aged 56, was admitted to University College Hospital on August 29, 1894, complaining of frequency of micturition and other bladder troubles. There was an indefinite history of constipation, but the bowels were said to have been freely opened on the 26th. The abdomen was somewhat distended. Enemata having failed to act, a careful examination of the rectum was made, but nothing abnormal could be found. By September 4 the abdomen was considerably distended, and no motion had been passed; his symptoms, however, not being urgent, it was decided to examine the patient under an anæsthetic on the following day, and if necessary, perform colotomy. In the course of the afternoon of the 4th the patient's condition became very rapidly worse, the distension of the abdomen increasing greatly, so as to very seriously impede respiration, the patient becoming at the same time collapsed, with feeble pulse, and temperature 97° ; it was therefore decided, as the only chance for the patient, to operate at once. He administered ether in the usual way with Clover's inhaler; the patient took it very well, and his pulse perceptibly improved. On examining the rectum a growth could just be reached, and left lumbar colotomy was rapidly performed. From the first incision the pulse became more feeble and the respirations shallower. He ceased to administer the anæsthetic, and gave injections of brandy, and no more ether was given, but he quietly sank, the pulse and respirations slowly failing, and a few seconds after the completion of the operation the patient ceased to breathe, the pulse having been imperceptible at the wrist for about two minutes previously; artificial respiration produced no effect. A very small quantity of ether was used, and the anæsthetic was stopped for five minutes before death. The necropsy revealed free gas in the peritoneal cavity, which had escaped through a perforation at the base of one of the numerous stercosal ulcers in the cæcum. There was extensive carcinoma of the upper part of the rectum, forming a mass which pressed upon the bladder, which accounted for his bladder symptoms, and there were numerous secondary

growths in the liver. The heart was normal. There was some congestion of both bases of the lungs, which were otherwise healthy. As will be seen from the above particulars, the patient's death can scarcely be attributed to the ether, but was rather due to shock, added to his collapsed condition subsequent to the perforation of the bowel."—*Ibid.*, 1894, v. ii., p. 658.

It will be observed from the above record that—

In Nos. 7, 10 and 11 the patients died three, two and four hours after operation after regaining partial consciousness, so their deaths may not have been entirely attributable to ether.

In No. 12 there was a narrowing of the trachea, impeding respiration, making the case a very unfavourable one for any anæsthetic.

In Nos. 4, 5, 13 and 14 the patients had previously taken ether well; it may therefore be presumed that had they not been debilitated by illness they would not have succumbed on these occasions.

Nos. 3, 8, 9 and 15 were all "bad" cases. Of Nos. 1, 2 and 6 the data are incomplete.

Several of these were clearly regarded as cases most unfavourable to any anæsthetic, and the fact that the stimulating anæsthetic (ether) was chosen in preference to chloroform shows that it was deemed the safer of the two. Such cases indeed should not be classified in the same category with those unfortunate deaths under anæsthetics which occur in people apparently healthy, who only take the anæsthetic for some small operation, or for the purpose of more elaborate examination.

Supposing, however, that for general surgical procedure medical opinion should crystallise, as I believe it is doing in favour of one anæsthetic (ether), it is only to be expected that exception in favour of some other should be taken in certain particular branches of surgery.

In a large number of gynæcological operations the choice of anæsthetic is left entirely to the administrator, and he naturally gives that which he considers safest (as a rule ether).

But in the one—the most important—class of abdominal sections, it is not unfrequently the habit for the operator still to insist on the administration of chloroform. Such insistence in the face of the above-mentioned facts can only be justified by the attainment of sufficiently commensurate advantages, of which the patient, *not the operator*, would be otherwise deprived. Are these so-called advantages really as great as is often made out, or are they not to some extent the result of a prejudice, born of habit? I remember, a short time ago, a well-known and highly respected operator finding fault somewhat strongly with ether (when employed in laparotomies) on an apparent experience of two cases, in which (as I pointed out at the time) his own description suggested the idea that his anæsthetist was not accustomed to the administration of ether. I quite agreed with him in thinking that ether was safer than chloroform in unskilled hands, but I also felt, and still feel, that in such operations as abdominal sections only an anæsthetist thoroughly accustomed to the particular anæsthetic used should be employed. An opinion formed on such data is hardly a fair one; nevertheless, the objections raised to ether by some operators should be examined carefully, and their value duly estimated.

The objections may be summarised as follows :

- (1) That the taste is not agreeable.
- (2) That there is frequently some struggling during the early stages of anæsthetisation.
- (3) The abdomen is occasionally more rigid and the movements of the abdominal walls more marked.
- (4) There is increased vascularity of tissue.
- (5) The after-effects are more marked and the vomiting is prejudicial to the patient.

The *taste* of ether is certainly not as pleasant as that of chloroform.

The *resistance* sometimes noticed during the early stage of its administration is due partly to this fact and partly to the pungent nature of the vapour. Both these drawbacks can be largely surmounted by the employment of nitrous oxide

gas at the commencement of the operation before the ether is given.

The advantages thus gained are: (*a*) the patient loses consciousness much more rapidly than with either ether or chloroform alone; (*b*) the inhalation of nitrous oxide gas is less disagreeable than that of ether vapour; (*c*) the ether spasm is greatly diminished and frequently absent; (*d*) the swallowing of saliva is lessened, and (*e*) less ether has to be given.

Various methods of combining the administration of nitrous oxide and ether are in vogue and claim their advocates. The simplest of these seems to me to answer very well. The tube from the gas bottle is fitted on by a nozzle to the metallic rim of the bag of a Clover's apparatus. The gas thus passes direct into the bag and is controlled by the usual foot-piece on the bottle; no supplementary bag is used. Clover's small apparatus is too well known to require description here, but the full benefit of the use of nitrous oxide gas is frequently lost by want of attention to one or two points of detail. The chief of these is the knowledge—to be acquired by practice only—of the exact moment at which to turn off gas and turn on ether. If the gas be turned off too soon the patient may regain semi-consciousness before coming fully under ether, and will then, most probably, struggle, and be troubled with laryngeal spasm. It is best first to adjust the face-piece in the usual manner, and allow the patient to breathe easily backwards and forwards for a few respirations, then turn on gas into the bag, which should be kept rather full in order that the pressure in the bag may be distinctly greater than that outside. Next turn the ether indicator to No. 1 (as soon as the patient begins to take full deep respirations) and thence gradually and tentatively to No. 2, keeping a foot on the gas foot-piece all the time, so that if there be any sign of spasm the ether may be at once diminished and a whiff of gas turned into the bag. When it is necessary to admit air, the bag only (not the ether chamber and face-piece) is taken off and emptied. The patient is

allowed a few respirations through the ether chamber into the air so as to get rid of the nitrous oxide gas remaining in the lungs. The bag (blown out with air) is then replaced, and the administration continued in the ordinary way. If the face-piece be taken off to give air—not the bag only—the patient is again very likely to come partially round, and the whole object of giving the gas is lost. The gas supply should not be cut off too soon or the spasm will not be avoided. The average time for getting a patient sufficiently under the anæsthetic to begin an operation has been found to be two minutes; but when perfect relaxation of all muscles is necessary, four or five minutes are required.

The *rigidity* of the abdominal walls—a matter of great importance in abdominal surgery—can be easily overcome by getting the patient thoroughly narcotised before any attempt is made to begin the operation. The difficulty when met with is generally due to too hasty and consequently insufficient administration. I fail to see that the fact of *increased vascularity* of parts need be a drawback: indeed bleeding points are less likely to be missed and concealed hæmorrhage to follow upon the operation.

The *after vomiting* and the *taste* of ether are certainly its worst features. While considering that too much stress is very often laid upon the former by the opponents of ether, everything should, of course, be done to diminish it as much as possible. It is, no doubt, greatly modified by the ease or the reverse with which the patient passes into the narcotised state. The less laryngeal spasm, general struggling and swallowing of saliva, the less the after discomforts; or, to put it in another way, if these symptoms be absent, the after-effects will be slight, and the duration of the taste of ether will usually be in proportion to the amount necessarily inhaled, *i.e.*, the duration of the operation. There are some constitutions that suffer disproportionate after-effects, whatever anæsthetic be employed, but the average given in the subjoined table of between two and three vomitings or retchings (including, as it does, all classes of cases), is not a

large one. In order to form an estimate of the degree of severity of the after-effects, my friend, Dr. Fausset, has very kindly gone through the notes of 330 consecutive cases with the following result.

Administrations, 330.	Average Age.	Average length of Operation.	No Vomiting.	Vomiting or Retching.		Average No. of Retchings or Vomittings.
				Severe.	Slight.	
Abdominal Section, 64 ...	35	42	13	9	42	2.37
Other Cases, 266 ...	35	20	70	22	174	3

The average age, which is exactly the same in both groups, may be omitted, and the numbers, for the sake of comparison, expressed approximately, as follows :—

	Average time of Operation.	No Vomiting.	Vomiting or Retching.		Average No. of Vomittings or Retchings.
			Severe.	Slight.	
	Min.	Per cent.	Per cent.	Per cent.	
Abdominal Sections ...	42	20	14	65	2.37
Other Cases ...	20	26	8	65	3

I have looked over the record of close upon 2,000 administrations of ether, including 280 abdominal sections. Out of the whole number eight have died within twenty-four hours of the operation. The causes of death in these cases were—three extra-uterine gestations : (1) of shock during following night ; peritonitis before operation ; (2) in ten hours, sac ruptured before operation ; (3) in two hours, sac ruptured before operation. (4) Of shock in two hours ; tumour found on section to be sarcoma of kidney ; (5) collapse in eight

hours; tumour found on section to be hydro-nephrosis; (6) ovariectomy; hæmorrhage; died in six hours; (7) double oöphorectomy; died of shock in ten hours; (8) intra-uterine fibroid (very tedious operation), died in ten hours.

It will be noticed from these statistics that besides the fact of there having been no death from ether at the time of operation, the eight cases which did succumb within the first twenty-four hours died *from other causes*. They all recovered consciousness with one exception, and in that one the reflexes returned though the patient was too collapsed to talk. This (as far as it goes) is a result which I am given to understand will compare very favourably with that of institutions where chloroform is used. The length of time of administration has varied from fifteen minutes to over three hours, and in the more lengthy, exhausting and complicated operations, there has been considerable shock and loss of blood associated with already enfeebled constitutions. Nevertheless, in only six cases has artificial respiration been necessary, and it was attended with such success that in each it was possible to complete the operation. In addition to the usual restoratives which had been resorted to in those cases showing symptoms of collapse, oxygen gas was used in one case. The operation had been a tedious double oöphorectomy, with adhesions, lasting an hour. When completed the patient was very pale, with a feeble but not rapid pulse, and clammy skin. The inhalation of oxygen produced a most marked effect, and she soon showed signs of consciousness, while her colour returned and her pulse rapidly improved. That oxygen should be useful in such cases is only what might be expected from the recorded cases showing its influence when administered in pneumonia. Its effects are indeed much more likely to be of use in operative collapse than in pneumonia, seeing that its action is so prompt, and that there is no necessity for its continued use. A bottle with tube and mouth piece attached should always be kept ready at hand.

Anæmic women require very little anæsthetic and are better without gas, so also are alcoholic women; to these I

prefer giving A.C.E. mixture in an ordinary cone to begin with, passing on to pure ether when fully narcotised.

The main points usually raised against ether have been touched upon, and my own experience mentioned, in the endeavour to show (what has already been held by many) that these objections are not of any magnitude, that as an anæsthetic ether is suitable for abdominal and gynæcological surgery and is not attended with *undue risk*.

The safety of chloroform in midwifery practice is a generally accepted fact. It has been suggested that the reason for this lies in the physiological hypertrophy of the heart and the altered vascular system. While believing this theory to be right, it seems to me that if the immunity from danger lies in the fact of the vascular system being, as it were, up to full concert pitch or rather above, then the risk must grow in direct proportion to the amount below that standard at which the circulatory system of any patient may be at the time of operation. When it is remembered that the large majority of operations are performed on patients whose health has been affected by illness, it would be natural to suppose their vascular system to be below that standard at which immunity from danger is found to exist. A proportionate amount of risk, therefore, must be run in giving chloroform to such, whereas a stimulant like ether would not be attended with that risk.

Again, if the danger of both chloroform and ether lies in the possibly sudden poisoning of the respiratory centre, it must surely be safer to give that anæsthetic which can be most rapidly eliminated from the lungs and circulation, should the necessity arise. In such cases, again, ether would stand before chloroform.

The natural conclusion appears to me to be that in gynæcology, as in general surgery, unless there are strong contra-indications, an unnecessary risk is run when ether is *not* given—a risk which cannot be measured or foreseen.

CLINICAL CASES.

TWO CASES OF PLACENTA PRÆVIA CENTRALIS TREATED
BY MEANS OF CHAMPETIER DE RIBES' BAG.

BY JOHN SHAW, M.D.LOND.

(Obstetric Physician to the North-West London Hospital.)

THROUGH the kindness of my neighbour Dr. Jessop, I had the pleasure of assisting him with two cases of central placenta prævia in one week, and the facility with which this complication was met by the employment of Champetier de Ribes' bag makes them worthy of record.

Case I.—Mrs. M., aged 26, a primipara. As an unmarried girl had been regular until the year preceding her marriage, when for some months she lost a small quantity of blood more or less constantly but without pain or the presence of clots. This bleeding, however, disappeared more than two months before her marriage, during which time she was twice unwell in the regular manner; she had two normal periods, moreover, after her marriage. The last day of the last period was Feb. 18, 1894. Her pregnancy was normal till the end of September, when she had a slight hæmorrhage which lasted for twenty-four hours. On Nov. 15, she had occasion to get quickly out of bed and to run up and down stairs. When she got back to bed she was sick and felt pain. At 11 a.m., whilst in the closet, had a sudden gush of blood, and during the next hour lost a considerable quantity, but by the time the doctor saw her the hæmorrhage had stopped. When seen in the evening, with the onset of moderately severe pains there was tremendous loss of blood, which quickly blanched the patient.

At 10.30 p.m., on examining her, I found the os rather larger than a shilling, and occupied entirely by the placenta, though it was possible to reach the membranes by directing the finger towards the left hip. Dr. Jessop gave chloroform, and with antiseptic precautions a Champetier de Ribes' bag was introduced in the direction in which the membranes had been reached. The foetal heart could not be detected by either of us. By 5 a.m. on the 16th, that is, about six hours after its introduction, the bag was found to be well down in the vagina and probably already escaped from the uterus; it was therefore emptied and withdrawn. The os was almost fully dilated, so that the membranes were ruptured and the delivery effected by forceps without further difficulty, the placenta being expelled about a quarter of an hour after the birth. The after progress of the case was perfectly satisfactory.

Case II.—Mrs O., aged 24, third pregnancy. Has had no trouble with her previous labours, and her menstrual periods have always been regular and natural. She has lost count of the date of the last menstruation, but thinks it was at the beginning of March, 1894. All went well till Sept. 20, when the first hæmorrhage took place, and at this time she lost a large quantity of blood and was in bed a week, though the bleeding stopped a day or two before she got about again. On Nov. 11 the next loss occurred, and was very profuse; she got up on the 13th, but had to return to bed, the loss continuing up to the introduction of the dilating bags.

When seen first on Nov. 22, 1894, the cervix was long, though sufficiently patulous to admit the finger tip readily, but as far as I could reach there was nothing to be felt but blood clot, and this smelt rather strongly. The size of the womb pointed to about seven months' pregnancy, and the position of the foetus was recognised as a breech presentation, the head being in the left hypochondrium and the feet somewhere about the umbilicus.

At 4 p.m., after giving a perchloride douche, a Champetier de Ribes' bag was introduced and the patient left. Pains did

not come on till 8 a.m. on the 23rd, *i.e.*, about sixteen hours after the introduction of the bag. The pains continued steadily till 3.30 p.m. when they entirely disappeared ; an hour later a hypodermic injection of ergotine was administered, and at 6 p.m., pains having returned, it was decided to evacuate the uterus. Dr. Jessop administered chloroform. The bag was emptied and withdrawn, and the cervix was found moderately well dilated, though there was still a rim. Nothing but placenta could be felt presenting in any direction, but by passing the hand between it and the uterus the membranes were reached and torn, and the right foot drawn down ; a hand then presented but was pushed back, and the left foot extracted. There was some difficulty in delivering the head, but with the help of one blade of the forceps this was done, and a female child, apparently of seven months, delivered. After a little trouble it began to cry lustily. The mother's temperature was 99.4° with a pulse of 100, which fell after the delivery to 84 per minute. The placenta came away a few minutes later without any actual expression, the uterus being simply supported with the hand. The subsequent progress was quite straightforward, though the child died some twenty-four hours after its birth.

With regard to the employment of a dilating bag in the treatment of placenta prævia, the first thing to notice is the importance of antiseptic precautions. The vagina must be well douched with perchloride solution 1 in 2,000 or 3,000, and the interior of the cervix also, if this is filled with clot, as it was in the second case. On the completion of the third stage the uterus itself must be well washed out with the same solution. It is probably superfluous to insist that the external genitals must be rendered thoroughly aseptic before undertaking any obstetric or gynæcological operation. Secondly, it is important to note that, where labour has actually begun, as it had done in the first case, the bag must be introduced only in the intervals between the pains ; and that it is to be passed in the direction in which membranes can be most readily reached, if there be such a spot.

It is interesting to notice that from the moment of the introduction of the bag there was no evidence of fresh hæmorrhage having occurred. In Case I. there was absolutely no more than a teaspoonful of blood lost from the time that the bag was introduced to the delivery of the child, and in Case II. such clot as came away suggested blood which had been some time effused between the placenta and the uterus, as it was very dark in colour.

The pyriform shape of Champetier de Ribes' bag allows of its lying loosely in the neck of the womb in the intervals between the pains, and the fact that in these two cases the hæmorrhage was so slight after its introduction, would so far lend support to the view that the bleeding takes place in placenta prævia during the pain itself, and that in the present cases this was obviated by the compression exerted by the bag being driven downwards on to the placenta by the uterine pains, at the same time as the os uteri was plugged by it. Moreover, the placenta itself is pushed over in the direction in which the uterus is being expanded by its contractions, so that the placenta is actually less severed from its uterine attachments. The great advantage of this bag is that it enables one to leave the patient in the care of the nurse whilst the os is being dilated. Its drawbacks are that, in the case of a head presentation, the bag is very likely to displace it to one or other side, and that the interval between the introduction of the bag and the commencement of labour is sometimes considerable. In spite of these disadvantages, however, owing to the facility with which it can be introduced, and the certainty with which it controls the hæmorrhage, the bag becomes a decided acquisition in the treatment of this complication. In those infrequent cases where severe loss takes place before a finger can be introduced into the cervix, the full-sized bag, as first introduced by Champetier de Ribes, would, introduced into the vagina and there distended to its full extent, plug the passage sufficiently to prevent loss, whilst the os was dilating enough to allow of the introduction of the bag within the uterus itself.

OBITUARY.

HENRY WIDENHAM MAUNSELL, M.A., M.D., T.C.D.,
M.R.C.S., Member of Council British Gynæcological
Society.

WE much regret to announce the loss of one of the Councillors of the Society, Dr. H. W. Maunsell, who died on February 21 from bronchitis following influenza, after a week's illness. He was born in Dublin in 1847, and obtained his diploma from the College of Surgeons in 1867. He went to Melbourne in 1868, and was very shortly afterwards appointed resident medical officer at the Melbourne Hospital. Three years later he was appointed to a similar office at the Westland Hospital, Hokitika, New Zealand, with a salary of £500 a year. Here he was allowed to undertake private practice, and met with such great success that he was able to give up his appointment in less than a year. Not long after he returned to Europe, and took his M.D. degree at his old University in 1876. Returning to New Zealand he settled at Dunedin, and was soon after appointed honorary surgeon to the Dunedin Hospital, an office he held until 1891. From 1889 to 1892 he was Lecturer on Surgery in the University of Otago. About three years ago he settled in South Kensington. He was an enthusiastic surgeon, and devoted his best powers to his work; he was a very good artist, and his surgical lectures were beautifully illustrated from his own drawings. Dr. Maunsell was a keen lover of the surgical branch of the profession, and an active worker and thinker. His operations of intra-peritoneal hysterectomy and in the perfecting of intestinal surgery proved his capability and originality. We have quite recently received from him some of his papers

on the latter subject, and in a paper published in the *New York Medical Journal* for December, 1894, Dr. Wiggin writes, "In the future, the Maunsell method will be at least more frequently employed, if it does not eventually displace, the other," *i.e.*, Murphy's operation for intestinal anastomosis.

Dr. Widenham Maunsell was well versed in the literature of his profession, and had contributed many valuable papers to surgical literature. He was elected to the fellowship of the British Gynæcological Society in 1889, and was appointed a Councillor in 1893. In debate his speeches were distinguished by clearness and force; he was keen in detecting and exposing fallacies, and withal ever courteous and considerate. Such of us as have seen him in his home circle will recall his kindness and hospitality, and feel strongly that those who knew him best liked him most.

He had never possibly been a strong man, although he looked well and vigorous, and it is sad to think that his transplantation, from where he was so firmly rooted and so highly thought of, had hardly been effected when the last critic stepped hurriedly in and removed all possible hope of the fair promise of his future in London. His originality, his honesty of purpose, his shrewdness and directness were the qualities which will cause his memory to live with, and be esteemed by us. Many who knew him slightly will miss his bright presence at our meetings; those who knew him well will realise that a man of real talent and worth has been taken prematurely.

He leaves a wife and three daughters. The funeral service took place in London on February 25, and his remains were cremated at Woking the following day.

REVIEWS.

DE L'ASEPSIE ET DE L'ANTISEPSIE EN OBSTETRIQUE.

Par S. TARNIER, Professeur de Clinique Obstetricale, Ancien Chef de la Maternité de Paris. Leçons professées à la Clinique d'Accouchements, recueillées et rédigées par le Dr. J. POTOCKI, Ancien interne de la Maternité de Paris. Avec 37 figures et 3 planches. Paris : G. Steinheil, Editeur, 2, Rue Casimir-Delavigne, 1894.

In this work on asepsis and antiseptics in midwifery, Professor Tarnier has given to the medical world a study of the subject which is complete in every detail. This magnificent work consists of 830 pages. It is divided into ten parts as follows:—Part 1. General view of puerperal diseases; etiology of puerperal fever; the way microbes are introduced into maternities. Part 2. Maternities from an antiseptic point of view. Part 3. Asepsis in midwifery. Part 4. Antiseptics; experimental researches relating to the action of several antiseptics on the streptococcus, the staphylococcus, and the septic vibrio; antiseptics in particular; recapitulation. Part 5. Application of antiseptics to the practice of midwifery; asepsis of the assistants and the service of the lying-in; antiseptics of the pregnant woman; antiseptics during labour; antiseptics during natural delivery; antiseptics in *post-partum* hæmorrhages; antiseptic treatment of lacerations of the genital organs during labour; antiseptics relating to artificial delivery; antiseptic treatment of retention of the membranes; antiseptic treatment of the retained placenta at term; antiseptics in abortions; anti-

sepsis during operations. Part 6. Antisepsis during the lying-in; antisepsis relating to recently delivered healthy women; antisepsis relating to complications following labour; antisepsis in puerperal infection. Part 7. Antisepsis during lactation. Part 8. Antisepsis of the new-born child. Part 9. Antiseptics in private practice. Part 10. Statistics relating to the maternal mortality considered especially in respect to the antiseptics used.

We have given the above synopsis of Tarnier's work for two reasons: firstly to set forth the extent of his researches; secondly to show how impossible it is in the scope of this imperfect notice to analyse the work throughout.

We therefore content ourselves with gathering from this storehouse of knowledge some of the latest conclusions at which the author has arrived as to the comparative value of the different antiseptic agents used to-day. We will, then, enumerate the various microbes to be dealt with, and then give in their order of potency the antiseptics brought into the field to attack them.

The microbes which are most to be feared by the obstetrician are three: the streptococcus pyogenes, the staphylococcus aureus, and the septic vibrio, so-called by Pasteur. To these may be added certain micro-organisms which sometimes give rise to infection, although in a minor degree than those just mentioned; they are:—the staphylococcus albus, the bacterium coli commune, and the gonococcus. The antiseptics to attack the above are numerous.

Professor Tarnier has had a series of experiments carried out with all on all the microbes enumerated in succession. He says the active antiseptics of practical use may be classed in the following order indicating their microbicidal power. (1) Bichloride of mercury; (2) biniodide of mercury; (3) microcidine (alkaline naphthol); (4) carbolic acid; (5) sulphate of copper; (6) permanganate of potash.

In the group of ineffective or mediocre antiseptics are chloral, boric acid, naphthol, salicylic acid, bichloride of copper, creoline, fluochloride of sodium and others.

The intra-uterine injections of sublimate should always be followed by some injection which is not toxic, such as boracic acid. This precaution renders the absorption of mercury by the uterus impossible.

When Tarnier first used the sublimate, he took the solution of Van Swieten, which is 1 of sublimate in 900 of distilled water and 100 of alcohol. He now uses this diluted with 100 more alcohol and 900 more water, thus giving a solution of 1 in 2,000. Another precaution to be observed in hospitals is that the jars containing the mercurial solutions should have the taps placed one-third above the bottom of the jar, because mercurial salts collect at, or near, the bottom, and the last third of the solution becomes toxic. Again the jars for the same reason should be thoroughly cleansed before receiving a fresh charge of the solution.

The statistics of the Paris maternity give a total of 15,000 cases in which sublimate injections were used ; of these two patients died from mercurial poisoning. The sublimate should not be used in any of the following cases :—retention of the placenta or membranes ; extensive lacerations of the perinæum or vagina ; severe hæmorrhages ; albuminuria, cachexia. The mere enumeration of the above contra-indications for the use of the sublimate points to the care which should control the use of this antiseptic. We now come to a question of the gravest import : *Should intra-uterine injections be made with the sublimate solution ?* The answer is :—Intra-uterine injections render great services, therefore they should be continued, but not with the sublimate. MM. Garrigues and Budin have collected sixteen cases in which death was due to sublimate injections ; of these, fourteen resulted from intra-uterine, and two from vaginal injections. Consequently if the sublimate had never been used for intra-uterine injections, only two deaths instead of sixteen would be recorded against it. Tarnier goes on to say :—“ This is why I renounce henceforth the use of intra-uterine injections of the sublimate.”

He retains it, however, for vaginal injections where the

dangers are almost nothing, as well as for the disinfection of the hands. For intra-uterine injections we must turn to some other antiseptic.

Carbolic acid is undoubtedly the antiseptic of the greatest value after the sublimate. It was first mentioned in this connection by Lemaire in 1865, and its use as an antiseptic in surgery generally dates from the researches of Lister in 1867. The action of the acid on steel instruments and on the skin are its chief recognised drawbacks. The strength of the solution used by Tarnier for vaginal injections is from 15 to 20 in 1,000. Tarnier reserves the carbolic acid solution almost exclusively for intra-uterine injections, especially where there is retention of placental *débris*, and where there is putrid infection in the uterus from the development of the septic vibrio. The alternative intra-uterine injection is the solution of permanganate of potash, and this is the antiseptic specially useful in the presence of large wounds, foetid lochia, clots, membranes, and placental *débris*. Tarnier insists on the use of intra-uterine injections of the permanganate in recently delivered women where there is a rise of temperature.

The above appear to us to be the salient points of practical value in that portion of the work which we have endeavoured to analyse briefly.

It is to be hoped that this *magnum opus* will, ere long, appear in an English garb, and that when it does so, the Italian adage, "Traduttore, traditore" will not apply.

FANCOURT BARNES.

TEXT-BOOK OF ABDOMINAL SURGERY. A CLINICAL MANUAL FOR PRACTITIONERS AND STUDENTS. By SKENE KEITH, F.R.C.S.Edin., assisted by GEO. E. KEITH, M.B., C.M. Edinburgh and London: Young J. Pentland. Price 16s.

This large and imposing volume of 500 pages is divided into two sections: (1) The surgery of the abdomen; (2) the surgery of the abdomen peculiar to women.

The first section occupies 314 pages, and gives a lengthy account of the surgery of the peritoneum, the stomach, the intestines, the appendix, the liver, the kidney, the spleen, and the pancreas. There is an inequality in the manner of treating some of the subjects—for instance, the surgery of the stomach is apparently written far more from a theoretical standpoint than the surgery of the kidney, which is handled with a clinical appreciation of the details likely to be sought for by those about to undertake such an operation for the first time. The abdomino-lumbar incisions, as advocated by Mr. Thornton, are held to present great advantages in nephrotomy over the lumbar or abdominal incision alone.

In referring to kidney enlargements, the terms *scrofula* and *tuberculosis* are used as if implying separate pathological conditions, this cannot, with our present knowledge, be accepted as correct. "Removal of fluid through the loin, in all kidney enlargements, must never be done; it favours an escape of fluid into the perinephric cellular tissue."

Section II., Chapter I. (tumours of the ovary) would have been rendered much clearer by a clinical classification of the varieties of ovarian tumours. Four lines is certainly scant space in five hundred pages to give to this point. The book does not in any way profess to be pathological and this is perhaps to be regretted; many of the anatomical details which can be found in all text books of anatomy might have been omitted, and a little casual pathology inserted with advantage.

Under signs and symptoms of ovarian cysts "emaciation of the chest and arms is more to be relied on than any other (*i.e.*, any other general) sign," but fibro-cystic uterine tumours have the same sign (p. 325), and it is mostly between such and ovarian cysts that difficulty is likely to arise in diagnosis.

Tumours in the broad ligament are treated of in an interesting and practical manner. "The operation in these cases varies very much from the usual one." How it varies, and how best to meet the difficulties is clearly stated. We

think it a pity that an attempt is made to justify the continued employment of the cautery treatment of the pedicle. There may now and again arise a case in which, owing to the extreme friability of tissues, it may be preferable to the ligation, but it is giving a *couleur-de-rose* description to the cautery treatment of the stump to say that it can be effected in "from two to three minutes" (p. 360). In past years we have had the advantage of seeing Dr. Thomas Keith using the cautery, and believe that from five to ten minutes is much nearer the actual time required. At page 372 "prolonged shock," subsequent to operations, and preceded by greatly accelerated heart action, is referred to, and illustrative cases recounted. The operator who meets with such experience will be grateful for the suggestions given at page 375, viz., hypodermic injections of strychnia gr. $\frac{1}{100}$, with tincture of strophanthus \mathfrak{m} $2\frac{1}{2}$ every four hours.

The value of the description of hysterectomy is enhanced by liberal use of Dr. Thomas Keith's publications on the subject, and as one of the greatest, if not *the* pioneer of the extra-peritoneal operation, Thomas Keith's work must always possess an interest peculiarly its own.

Turning back to the earlier pages of the book, we note with appreciation many useful practical suggestions. In "after treatment," quinine is advocated in intestinal paresis; six grains of quinine dissolved in two drachms of whiskey in two ounces of warm water are to be injected into the bowel every two hours until three doses have been given. "Morphia, gr. $\frac{1}{4}$ or more, and no fluids by the mouth should precede the quinine by three or four hours." Castor oil by the mouth (which we have seldom seen retained in this condition), with enemata of turpentine, frequently repeated if need be, are also to be employed.

We find all through the book that the antiseptic solution of perchloride of mercury, not only for the operator's hands, and for bathing external parts, but for douching the cervix and vagina, is to be 1 in 500; this is at least twice the strength used by the most ardent believers in the efficacy of corrosive as an antiseptic.

The general appreciation of the book will doubtless vary. Some may find that the practice of the authors is not exactly on the same lines as are, now-a-days, accepted as orthodox ; others may esteem the work as somewhat too conservative to be really a helpful aid to those seeking to extend their clinical knowledge ; but all must recognise that the work bears the stamp of individual thought, and that the recommended practice has been in great part gained by personal experience.

As representing in part a reflection and outcome of Dr. Thomas Keith's work and teaching, as in part the deduced observations of the authors, drawn from an extensive and varied special training and practice in abdominal surgery, the book is one which we think deserves consideration from every abdominal surgeon, and every practitioner who aspires to become such. There is considerable lack of needful illustrations, and several of those figured could have been left out without lessening the value of the work.

The publisher has produced his share of the enterprise in a most highly creditable manner, paper, letterpress and binding being all excellent.

L. N.

A MONOGRAPH OF DISEASES OF THE BREAST, WITH SPECIAL REFERENCE TO CANCER. BY W. ROGER WILLIAMS, F.R.C.S. With 76 figures. 8vo, pp. 571. London : John Bale and Sons. 1894. Price 21s.

This book is clearly the outcome of much observation and diligent research. No pains have been spared to render it not only accurate but exhaustive regarding the special subject of malignant breast disease. While Bryant and Nunn and Butlin have within recent years contributed much to the elucidation of the problems surrounding the subject, and while pathologists in England and abroad have vigorously contested isolated points of interest, it has been left to the author to bring together the fruits of all, or practically all, his co-workers on the subject, and enrich these with his own

well-considered conclusions. No such work so written can fail to be of value.

Since the old classics of Astley Cooper and Velpeau exhausted, or almost exhausted, all that could be said clinically about breast cancer, there remained only two great fields for scientific exploration—the histological and the improvement of the therapeutical; these have been well seen to now.

Histology and medical chemistry, unknown fifty years ago, have not yet been able to settle the pathogeny of cancer. The author rejects the microbic theory of origin, and does so with evident reason on his side. Among many interesting chapters, chapter x. on the general pathology of mammary cancer, including the geographical distribution of the disease and its topography, will be found extremely readable and teaching. Pathologists differ so widely in their definitions at present, that to attempt to analyse the classification employed would require more space than we can now give, but the author for the most part follows and emphasises the views generally acceptable. Among the curiosities contained in the book, the accounts of gynæcomastia (p. 104), and paramammary neoplasms (p. 73) deserve special notice. It strikes one as curious that of 2,397 consecutive mammary tumours, only 2.6 per cent were cystic. Personally, we are inclined to believe that collectively another series of cases would show a higher proportion.

This much we do not hesitate to say, that chronic breast inflammation is often assumed to be malignant on insufficient grounds, and partial operations undertaken which would be of no value were the diagnosis of cancer correct.

We are happy to note that the author has wisely avoided wasting space in mentioning such methods of treatment as chian turpentine, methyl violet (pyoktanin), electricity, or Mattei's "electrical" waters, all of which may be fairly and conveniently classed together as equally useless. The book is full of excellent matter, well put and amply supplemented by fresh and easily-checked references and statistics.

General practitioners as well as specialists will find the work most helpful in its practical conclusions. We hope it will have a great success, for it merits it thoroughly.

L. N.

SYLLABUS OF LECTURES ON EMBRYOLOGY. By W. P. MANTON, M.D. Detroit. London: F. J. Rebman. Price 6s. 6d.

This is a neat book of about 120 pages, and is interleaved so that the student may use it in the class-room. There is a lightness and brightness about it which makes one feel as though one were about to enjoy one of the latest *fin-de-siècle* novels, but it must be noted that this delusion immediately gives way to brain work before two pages have been read. This is due to the mind having to struggle with so many different subjects within the short space given.

The following extract is *not* a sample of the real contents of the lectures:—"The Animal Kingdom is composed of *Protozoa*, or unicellular animals—*e.g.*, *Amœba*; and *Metazoa* or animals composed of many cells so united as to form tissues—*e.g.*, all animals—and which alone produce eggs (ova)." Now this either excludes *Amœba* from the animal kingdom, or renders its inclusion incorrect as an example of the protozoa.

When we reach the true matter of the lectures we are rewarded by a really plain lucid summary of those portions of embryology which every well-read medical man should be aware of even if he does not carry the knowledge of them ready to recall to order. Spermatogenesis and oögenesis are briefly but tersely described, and the same may be said of the general development of the embryo. The advantages of using the German term "anlage" for the English term "rudiment" are not very apparent, and the term "bauchstiel" is used without any explanation at all. The placenta, with the membranes and the utero-placental circulation are not described with that coherence which should be used in

bringing such delicate subjects before students, especially when they involve such important factors in obstetrical and gynaecological pathology and treatment.

The changes in the maternal organism incident to pregnancy are scarcely part of the field of embryology, but practically it may be very useful to briefly consider them here. There is a very compact and succinct chapter on practical work in embryology, and it does not err in giving many methods and none thoroughly, for on perusal we find that by following the directions we should obtain a good series of embryological specimens certainly sufficient for the ordinary purposes of medical education. There are singularly few *errata*, but we may assist the author in preparing his second edition—which we feel sure he will have to do very shortly—by giving the few we have noticed ; on page 5, line 1, *deferend* for *deferens* ; on page 40, line 12, *chorium* for *chorion* ; on page 88, line 1, *vein* for *arteries*. The term *bauchstiel* should also be defined in the glossary.

F. EDGE.

DIE SYMPHYSEOTOMIE. Von PROF. DR. P. ZWEIFEL,
Director der Universitäts-Frauenklinik in Leipzig.
Leipzig: Otto Wigand, 1893.

In the first part of this work Zweifel gives a full account of the employment of symphysiotomy from the time of Sigault to the present day. The latter part is concerned with his own experience. His summing-up is as follows:—

The operation may be employed in many cases of contracted pelvis in which hitherto embryulcia has been the treatment. Where the conjugata vera is not below 6.5 c.m. it may take the place of Cæsarian section, provided that the ilio-sacral joints of the mother are not ankylosed and the child is of not more than average size.

With a conjugata vera of less than 6.5 Cæsarian section should be performed, when the child is alive. When the child is dead it may be delivered by embryulcia when the conjugata vera is not less than 4.5.

In the lesser degrees of pelvic contraction, in which the head remains high, forceps delivery should be carefully tried. If this method fail symphysiotomy may be used.

Turning is to be limited to cases in which the conjugata vera measures from 9.5 to 8.5 c.m.

Division of the symphysis is, as a rule, easy. It is made with a probe-pointed knife, the fingers being placed behind the pubes to keep the soft parts out of danger. When the joint is ossified a small saw is used. Bleeding from the corpora cavernosa clitoridis is checked by a tampon of iodoform gauze. After division one must wait for a time to see if the child can be delivered by the natural powers. If not, forceps may be used.

The joint is closed, after delivery, by means of a series of thick catgut sutures passed through the cartilage on the ends of the bones, or through the bones themselves, holes being made with a drill. Care must be taken to see that the bladder is not pierced nor pinched between the bones. The soft tissues over the bones are then closed, the lower end of the wound being drained by means of the iodoform gauze; this is removed in twelve hours. For two days the bladder is emptied by means of a catheter.

J. CLARENCE WEBSTER.

UEBER PESSARIEN. By Professor Dr. SÄNGER, of Leipzig.
Leipzig: Otto Wigand, 1890.

Sänger at first describes the various forms of uterine displacements. His classification is almost the same as Schultze's. All intra-uterine pessaries he condemns, because of the dangers connected with their use. Vaginal pessaries alone should be employed. Ante-flexion pessaries are useless. They are supposed to act through the anterior fornix, while the cause of pathological ante-flexion, *e.g.*, utero-sacral cellulitis or posterior perimetritis, is behind the uterus.

The great use of pessaries is in connection with retro-deviations of the uterus. Re-position of the uterus should

always precede the introduction of the instrument. Of all methods of re-position, Sanger prefers the bimanual, if necessary, under anæsthesia.

His teaching as to the action of the pessary is practically the same as that which has been taught for some years in the Edinburgh school, viz., that the upper end of the pessary affords a *point d'appui* over which the posterior vaginal wall tends to drag the cervix upwards and backwards, while at the same time intra-abdominal pressure tends to keep the replaced body in close relation to the bladder. He recommends particularly the pessaries of Hodge, Schultze, and Thomas. Hodge's instrument is on the whole the most serviceable. The Schultze is also very good, though secretions tend to collect where the bars cross. The Thomas pessary he uses where the uterus is more difficult to keep in position. It presses up into the fornix better than the Hodge pessary.

Sanger's results in the pessary treatment of retro-deviations are as follows : complete cure in 25 per cent. of cases ; relative cure, *i.e.*, uterus remains anteverted while the pessary is *in situ* in 40 per cent. ; no result in 35 per cent.

The various methods of operative treatment for retro-deviations are next detailed, but the author thinks that their relative merits are still a matter for consideration. Prolapsus uteri should only be treated by pessaries when an operation cannot be carried out owing to the opposition of the patient, in cases where the prolapse is only slight, where there has been a return after former operations, where the age is very advanced, or where some other disease is a contra-indication to an operation. He recommends for this affection Hodge's pessary, the ring pessary, Peaslee's, and Martin's pessaries.

Professor Sanger's pamphlet is worthy of the careful study of all gynæcologists, and it may be especially recommended to those who have been saturated with the traditional misconceptions regarding displacements of the uterus, their symptomatology and pathology.

J. CLARENCE WEBSTER.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. A Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by CHARLES E. SAJOUS, M.D., and Seventy Associate Editors, assisted by over two hundred Corresponding Editors, Collaborators and Correspondents. Illustrated with chromolithographs, engravings and maps. Five volumes. The F. A. Davis Company, Publishers, Philadelphia, New York, Chicago and London. London: F. J. Rebman, 1894. Price 13s. net per vol.

This 1894 issue of "Yearly Report of the Progress of the General Sanitary Sciences throughout the World" is in keeping with its predecessors in thoroughness. We have previously pointed out the advantages of such a yearly retrospect to both the general practitioner and the specialist, and it need only be said here that this work saves the medical man, and especially him who writes, a vast amount of time and labour in research. Each department of medicine, surgery, obstetrics, anatomy, physiology, &c., has been handled in a masterly manner, and the result is the bringing together of all the advances that have been made in the respective departments. Indeed it would seem that this work is almost indispensable to the practitioner who feels the great responsibility of his calling. The publication has become very popular, and that most deservedly so. The present series is similar to its predecessors in its general construction and arrangement. The contributions in gynæcology, obstetrics, and pædiatrics are generally of a very high order. They are all useful and valuable, and we refrain from making any distinction. The work is complete in five volumes, and the price is a moderate one for such a mine of information. Two important factors in the success of this Annual are its mechanical excellence and its prompt appearance from the press. We highly commend it to every medical man as containing the latest and best of valuable information.

L. N.

FORMULAIRE DU MASSAGE. Par le Dr. G. NORSTRÖM.
Paris : Libraire J. B. Baillière et Fils, 1895.

This is a compact and readable account of the uses of massage in the treatment of disease. We desire to notice in particular only the chapter on Massage in Gynæcology. Dr. Norström recommends most strongly this method of treatment for the various inflammations found in the uterus, for leucorrhœa, sterility, dysmenorrhœa, versions and flexions, prolapse, fibroid tumours, parametritis, perimetritis, salpingitis, ovaritis. He employs vaginal, rectal and bimanual methods.

Hitherto massage has been practised very little by British gynæcologists. We do not think that the perusal of Dr. Norström's chapter will tend to make this form of treatment more popular among them.

That massage is good in certain chronic inflammatory conditions cannot be denied, and it may be conceded that its beneficial influence may be seen even when it is used for troubles seated in the pelvis. Yet the careful physician will have recourse to this method but rarely. Its wholesale adoption, as recommended by Dr. Norström, cannot be too strongly condemned.

The frequency of examination and of manipulation required for successful results will always, we believe, act as a deterrent to the employment of pelvic massage by British gynæcologists.

J. CLARENCE WEBSTER.

MONATSSCHRIFT FÜR GEBURTSHÜLFE U. GYNÆKOLOGIE
Herausgegeben von Prof. Dr. A. MARTIN, Berlin, and
Prof. Dr. M. SÄNGER, Leipzig. Berlin : S. Karger, 1895.
Bd. I., Hft. 1.

We welcome the appearance of this new periodical. It is a striking evidence of the great intellectual activity among the German gynæcologists at the present time. The distinguished names of the editors and the strong body of collabora-

tors are a sufficient guarantee for the production of the highest class of work. The first number contains an interesting account of the history of German gynæcological periodical literature from the times of Johann Stark (1787) to the present day. Schauta writes on the operative treatment of certain bad forms of vesico-vaginal fistula. Möbius discusses present views regarding hysteria; Sängner contributes a very interesting account of a case in which the ovum entered the tube by means of an accessory fimbriated extremity, passed into the uterus, becoming fertilised, and there developing. Cæsarian section was performed because natural delivery was impossible owing to the presence in the pelvis of the remains of an old ectopic gestation. The other pages are occupied with reports of proceedings of several gynæcological societies, abstracts of papers, book-reviews, &c.

The Journal is printed in the most careful manner, there being no overcrowding of the pages. The variations in the typing, according to the subject-matter, are of great assistance to the eye of the reader.

We congratulate the Editors most heartily on the success of their venture, and we wish them continued prosperity.

J. CLARENCE WEBSTER.

"TERATOLOGIA:" QUARTERLY CONTRIBUTIONS TO ANTENATAL PATHOLOGY. Nos. 3 and 4, October to December, 1894.

In this double number, completing vol. i., the promise of the first number is well fulfilled. There are four original articles, of which two are by the editor, Dr. Ballantyne. The first, "The Teratological Records of Chaldea," is a scholarly paper of great interest. After giving a list of the "divinations," that is, of the indications supposed to be afforded by malformations of different kinds, Dr. Ballantyne analyses them, assigning to the various deformities their modern names, and showing that "the Chaldeans were

acquainted with many kinds of congenital deformity, most of which can be identified with abnormalities well known at the present time." Dr. Ballantyne's second paper is on the "Paracephalus Dipus Cardiacus," which is rare.

Dr. Fordyce concludes his paper on "Intra-Uterine Ascites," begun in No. 2. Careful analyses are given of the morbid conditions found in the foetus, as observed in sixty-three cases which Dr. Fordyce has collected. In no case, where more than one litre of fluid was present in the abdomen, was it possible for the trunk to be delivered till the abdomen had been punctured. The author sums up his considerations as to etiology: he concludes that the most important cause is peritonitis; and the next is obstruction to the portal circulation, as in the cases of Herman, Berthod, Letulle, Küstner and Schröder. The relative frequency of these causes is therefore the reverse of what is found in the adult. In nine out of sixty-three of the cases collected there was reason to believe that syphilis was present in either or both parents.

The fourth paper is on a most interesting case of maternal erysipelas transmitted to the foetus; both died, the latter nineteen hours and the mother six days after delivery. In both, malignant endocarditis was found, with the presence of streptococci. Careful microscopical and bacteriological data were obtained.

The author, Ettore Bidone, of Florence, concludes:—

(1) That this case confirms the identity of the streptococcus of erysipelas with the streptococcus pyogenes.

(2) That a grave form of puerperal septicæmia, with malignant endocarditis, can originate in erysipelas contracted during pregnancy.

(3) That the possibility of the passage of streptococci from the mother to the foetus, presumably through the placenta, is demonstrated.

(4) That the foetus in utero can become the subject of malignant endocarditis, combined with an acute septicæmia.

The editor shows great enterprise in printing this valuable

paper in Italian. He proposes to publish other continental papers in the originals.

The abstracts continue to form an important and most valuable portion of the Journal. A list of authors and of works quoted is given; and we must reserve a special word of praise for the admirable "Analytical Index." There are few things so helpful as a complete scheme of classification, even when this is not final; and the scope of the Journal is well indicated in this index. By its means, also, reference is greatly facilitated; and the editor has managed to get some reference to almost every known kind of deformity into this first volume.

We heartily congratulate Dr. Ballantyne on his successful enterprise.

ARTHUR E. GILES.

INTERLIGAMENTARY ELYTROTOMY.

By CHARLES BOISLEUX, M.D. Paris, 1892.

This is a paper, with seven cases illustrating it, on elytrotomy between the uterosacral ligaments followed by drainage of the pouch of Douglas. It was used for the treatment of pelvic abscesses, of adhesions of the uterus and its appendages to one another and to neighbouring organs, and in particular for the treatment of retrodeviations of the uterus, both retroversions and retroflexions, mobile and fixed.

The author has practised the method of Thure Brandt, and also in suitable cases the method of Schultze, for the various troubles caused by adhesions and exudations in the pelvis, but he has met with cases in which, even when the treatment by these methods gave relief, the conditions relapsed, and with other cases in which these methods did not relieve.

Knowing the vital importance of preserving the utero-sacral ligaments intact, he used the operation of Byford and Stratz modified. Stratz, however, does a colpo-perinæorrhaphy at the same time, and this impedes the drainage very greatly. The author operates, briefly, as follows: The patient is in

the dorso-coccygeal position. He disinfects the parts. He cures the uterus, and then uses the positive pole with a strength of 150 milliampères for five minutes. The carbon sound (No. 5) of Apostoli is chosen. A strip of iodoform gauze is put in the uterus for twenty-four hours.

The posterior cervical lip is seized and drawn forcibly upwards with volsella. A medium incision four to six centimetres long is made into the pouch of Douglas between the uterosacral ligaments, and one centimetre above the insertion of the vagina into the cervix. This prevents section of the interligamentary intercrossing of fibres. The adhesions are now separated with the aid of the external hand on the abdomen, and the appendages examined and released from their imbedding in exudation. The peritoneum is then washed out with 3 per cent. boric solution. A rubber drainage tube in the shape of a cross with two pieces forming the long arm is placed behind the uterus. The wound is sutured and the vagina plugged with iodoform gauze. The tube is left in five days so as to prevent any new adhesions or exudations forming, and to keep the uterus in position. It has been retained for eighteen days.

The author points out how to recognise sero-sanguineous exudation from blood by the simple observation of its effect on a cloth. It forms a stain with pigmented centre and pale circumference, whereas blood stains are almost homogeneous. This operation should be the preliminary step in all hysterectomies, as it aids diagnosis, prevents futile mutilation, and facilitates the subsequent hysterectomy should it be necessary.

The author says: "Finally this method allows the uterus to be replaced in its normal position in one sitting. It renders the use of a pessary inutile; it allows the ovaries to be preserved, and renders conception more easy by setting these organs free. In a word, it may be employed in every case of infectious disease of the uterus and its adnexa, whether of old or recent origin. The use of this method will permit cases which have been given up to be saved, and

will cure women without unnecessary mutilation." We may say that the author's seven cases all did well.

At the present moment, Dr. Dührssen of Berlin and one or two of the younger gynæcologists are trying to prove that elytrotomy for these same conditions should never be done through the posterior vaginal fornix, but through the anterior fornix. The greatest disadvantage urged against the posterior method is the difficulty of drainage and the reformation of adhesions. Then of course Boisleux believes the utero-sacral ligaments to be all powerful in supporting the uterus, while Dührssen, following Säger's earlier proposal, fixes the fundus uteri anteriorly to the anterior vaginal wall. Both claim for vaginal coeliotomies, less shock, less duration of confinement to bed, less danger of hernia, and superior results to those of ventral coeliotomies in these milder cases for which so many appendages are removed, adhesions broken down, ovaries ignipunctured and uteri stitched to the abdominal walls. Why are these methods not used more frequently? Because in many cases the seat of operation is near the pelvic brim, and we cannot diagnose its site accurately before operation.

F. EDGE.

THE ASEPTIC TREATMENT OF WOUNDS. By Dr. C. SCHIMMELBUSCH, Assistant Surgeon in Prof. von Bergmann's Univ. Clinic, Berlin. Translated from the second German Edition by ALFRED THEODORE RAKE, M.B., B.S.Lond., F.R.C.S. Crown 8vo. H. K. Lewis, London. Price 5s.

A clear, methodical system of aseptics in surgery and gynæcology is at present a great desideratum. In former times when antiseptic treatment, distinguished from aseptic by its more elaborate machinery, and by the stronger reliance put in drugs as preventives against putrefactive action by its advocates, was rigorously employed by most of the leading operators, no great difference of practice was likely to prevail. Now that operators have come to regard perfect surgical

cleanliness as the first requisite, and chemicals to be of powerful, but at times dangerous, secondary importance, much room is left for the adoption of individual fads and fancies.

It is well known that certain distinguished abdominal surgeons who use no chemical aids in their practice obtain results at least equal to those who are most rigorous in the use of the strongest antiseptic agents. This has been explained by the disciples of the antiseptic school in various ways. The most courteous, and probably the most correct, solution they offer is that the surgery of the abdomen is so far pathologically different from the surgery of the limbs in that the peritoneum can be counted on to dispose of certain germs which the less highly vascularised limbs can not. Yet fewer and fewer of the younger operators care to trust to soap and water as the sole means of purifying hands and instruments. The evil of using too strong chemical solutions, still more the evil of holding too blind a faith in these as the be all and end all of the doctrine and practice of antiseptic treatment, aiming at aseptic results, cannot be too markedly condemned.

The transition from the recognition of antiseptic treatment as the perfect assurance against all surgical mischance, to the better and surer belief in antiseptics as one of the most valuable of the media for insuring the aseptic healing of wounds has been, as yet, but imperfectly appreciated. Men have sought vainly for the perfect antiseptic agent which shall at once be all potent against microbes and harmless to humanity. The hosts of new chemicals appearing, professing to possess these qualities, is sufficient proof, if any were required, that finality of antiseptics cannot be said to have been reached by drugs.

This little book of Schimmelbusch's appears opportunely. It is clear and explicit. There is no halting or hesitancy in its principles or enjoined practice. Von Bergmann's work is reflected, and happily elucidated throughout the book. There is not much in it which cannot be found scattered through the literature of surgery, little that is not recognised and adopted

by most men who have followed the work of the best surgical masters. But there is here, within short space, a well-defined, easily adopted system which can be used for the most part by the hospital surgeon or the country practitioner with equal facility. The chapter on Sterilization of Metal Instruments alone is well worth the whole cost of the book. Everyone who wishes to employ the best plan of practising surgery successfully and scientifically will do well to carefully read and re-read this excellent little volume.

Mr. Rake, the translator, deserves congratulation for his share of the work ; and the publisher has maintained his usual standard of excellence in his department.

LEITH NAPIER.

INTESTINAL APPROXIMATION. PATHOLOGICAL HISTOLOGY OF REUNION AND STATISTICAL ANALYSIS. By J. S. MURPHY, M.D. Reprint from *New York Medical Record*, May and June, 1894.

In a paper read by request before the New York Academy of Medicine, the author in an able and convincing manner describes the benefits to be attained by the employment of his "Button" method of uniting the intestine after resection.

The subject is approached in an eminently scientific manner. After considering the anatomy of the various viscera in so far as it appertains to the strength of the individual coats of the intestine, and also their histological power of agglutination, he arrives at the following conclusions. First, that the serous coat plays the most important rôle in rapid and complete union after approximation, and secondly, that the submucous layer being by far the strongest, is of the greatest value in affording a suitable site for placing stitches in the suture method, so that close approximation may be got ; it has, however, but little regenerative power.

In comparing the "Button" with the "Suture" method, he claims for the former the following main advantages :—

(1) From the more exact approximation a smaller cicatrix results, and thus contraction of the bowel is avoided.

(2) Less manipulation and bruising of the peritoneal covering, leads to less chance of peritonitis.

(3) The rapidity with which the operation can be performed greatly minimises the subsequent shock.

In detailing individual operations, Dr. Murphy's statistics shew a series of brilliant results as compared with those obtained by the suture method.

Perhaps the most striking of these is in the operation of Cholectcystenterostomy, where eleven consecutive recoveries are recorded as against a mortality of 34·8 by the suture method.

Almost equally brilliant are the results obtained in Enterostomy by various operators with the Murphy Button; thirty-four cases with three deaths.

The author strongly favours end to end approximation of the intestine, except in resection of the pylorus and cæcum. In the former he recommends closing the end of the stomach by Czerny-Lembert sutures and approximation of the duodenum through the posterior wall.

The rapidity with which the operation can be done is undoubtedly one of its strongest recommendations, twenty minutes being a not unusual time for the complete performance.

The button in every instance of sixty-seven cases has been voided; this usually occurs about the sixteenth day, but may be as early as the seventh.

The *modus operandi* is carefully detailed and illustrated by diagrammatic woodcuts, and seems as simple as it is efficacious.

The paper as a whole is one of extreme practical and scientific value, and the author is to be congratulated in the elaboration of an operation, which, as far as present statistics shew, must take a foremost place in the present rapidly advancing branch of abdominal surgery.

F. W. N. HAULTAIN.

LEHRBUCH DER FRAUENKRANKHEITEN (Text Book of the Diseases of Women). By Prof. HERM. FEHLING.

This handsome volume of over 500 pages, well printed and copiously illustrated, is one of a series called *Bibliothek des Arztes*, published by the well-known firm of F. Enke of Stuttgart.

The aim of Prof. Fehling, as he explains in the preface, was to write a text-book for gynæcologists, and a book of reference for the general practitioner. After a careful perusal of the book we may say he has succeeded well. The book is not a mere compilation, but everywhere shows its author to be a thorough master of his subject, whose criticism is based upon independent research and ample practical experience. Without prolixity he gives in a concise and clear manner the work of others, and refers such as desire more information to the respective sources.

It is of course impossible in a short review to do justice to a work like this. The first chapter on General Methods of Examination is instructive, but cannot give much that is new. In teaching the use of the sound in retroflexed uterus (p. 25) we think it would add to the efficacy of the method if the method shown by the reviewer in the *Obstetrical Transactions*—(xiii.) were fully carried out.

The second chapter, on general therapeutics, is well written, and the four pages devoted to "Badekuren," is concise and sober and seems to describe tersely what we may expect from them.

The various uses of gauze tampons for vaginal and uterine affections would be advantageously carried out by many practising gynæcology, who are still using instead more obsolete methods for arresting hæmorrhage or dressing diseased membranes.

With regard to stem pessaries Fehling seems to us quite right in more or less condemning their use. We have, in a very long practice, scarcely ever resorted to them. It is a fact also, that here in London very little is heard of their use now.

It is a special merit of this work that the anatomy and physiology of the different parts and their development during embryonic life, are carefully given. The chapter on diseases of the vulva is thus preceded, and has a good description, with two good drawings, of hermaphroditism ; but it would have been well to have said something of the urethra too—on account of its affections patients are constantly induced to seek the gynæcologist's advice. Urethral carunculæ are not even mentioned, and yet we know cases in which they have impeded the act of coition in newly married women, and their symptoms have been taken for vaginismus. Removal was followed by immediate relief. It would have been in the interest of the general practitioner if a clinical chapter had been added on Dyspareunia in which all the possible causes of it were mentioned. In the chapter on Sterility, even had they been all mentioned, the practitioner would not look for them. The reviewer had a case where after two years' dyspareunia and unsuccessful vaginal treatment by others he incised a rectal fissure, with the result that a pregnancy dated from the very same day. Para-urethral abscesses [the rarity of which we admit, but have seen several obstinate cases] are not mentioned in this, nor in a later article on female gonorrhœa. We may, in advance, say that gonorrhœal vegetations, even of the most extensive kind, have disappeared in some cases with chloride of zinc injections. . . . We should advise the use of the scissors only when, *after curing the vaginal discharge* by chloride of zinc, they still persist. The chapter on Perineal Operations is very complete. With regard to Tait's splitting operation Fehling says : "The simplicity of the proceeding is undeniable, but the vaginal flap shrinks and does no good, moreover, it is bad surgical practice to leave an open rent in the rectum unsewn, which may expose the perineal wound to fæcal infiltration." The diseases of the vagina and their treatment are very completely given, the descriptions of the different operations short and clear, the illustrations partly original, and where borrowed from other authors honestly acknowledged.

A special article on Sterility in Matrimony deserves particular notice. Two omissions we have already mentioned when speaking of dyspareunia—by the by, a word not adopted yet by the author. Gonorrhœa is given as the most frequent cause of sterility. Fehling attributes the cause of sterility *to the male partner* in 50 per cent.

It is impossible in this place to take notice of every chapter. The author's kolporaphiæ anterior duplex deserves a trial in prolapse. All the vaginal operations are well illustrated. In the treatment of chronic inversion the English method (Aveling's) might have been given.

The chapter on Myomata and their treatment will give the English reader a very good idea of what has been done in Germany and France for these important cases. We must refer him to the original. It may be mentioned that Prof. Fehling's German is very clear and free from complicated periods.

With regard to Apostoli's treatment, he says that "*it will rank only humbly amongst the symptomatic methods of myoma treatment.*"

Fehling's indications for oöphorectomy are : In all rapidly growing myomata before the upper margin reaches the umbilicus, especially when the patient is between 20 and 30 years ; in all cases which are still far from polypoid formation.

"Enucleation is incalculable and not without danger. I am inclined to limit it to the utmost, and prefer a clean laparotomy to a severe enucleation." A statistical account of 239 cases, German and French, gives a mortality of 16 per cent., varying from 33 to 23 per cent. Fehling lost 1 out of 13, Chrobrak only 1 out of 43. The extra- and intra-peritoneal methods are fully treated and statistics given. We agree with him, "that we cannot as in ovariectomy hope to find a method applicable to *all* cases, as the anatomical differences of the cases render this impossible."

The different forms of cancer form an excellent chapter, the pathology is illustrated by very good drawings, and the

description of the operations is clear and to the point. The mortality of the operation is getting lower and lower every year, and very low in the hands of some operators, as is the case in this country, since the prejudice against the operation has so rapidly disappeared.

The diseases of the ovaries and their treatment are fully and very well described. But it would be well if in a future edition tumours of the mesentery were mentioned as likely to be confounded with ovarian tumours, and the proper method of treating them pointed out.

We once more commend this work to all who read German.

A. A. RASCH.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS. By CHARLES W. PURDY, M.D., Illustrated; pp. 349. Price 14s. Philadelphia: F. A. Davis & Co. London: F. J. Rebman, 1894.

This book is divided into two parts with an appendix. Part I. consists of 228 pages, and deals with the analysis of urine; Part II. of 100 pages, is devoted to urinary diseases; and the appendix of 16 pages discusses the examination of urine for life insurance.

Part I. opens with an account of the physical peculiarities of the urine, and the author passes on to an exhaustive description of the various normal organic and inorganic constituents, together with their chemical analysis; and the section concludes with an account of centrifugal analysis, for which the author has devised a set of percentage tubes. Chapters iv. and v. are devoted to abnormal urine, and open with an account of albuminuria, together with "physiological" and "cyclic" albuminuria. The numerous tests for albumin, reliable and unreliable, are very carefully considered, their fallacies pointed out, and the value of the ferrocyanic test when applied without previous acidification of the urine is very properly insisted upon. The author truly observes any precipitate produced by this test when applied as above is

albumin and nothing but albumin. The various methods of quantitative estimation of albumin are given along with the author's centrifugal method. The clinical significance and chemical detection of the proteoses and peptones, of globulin, hæmoglobin and mucin receive careful attention.

A chapter is devoted to the various carbohydrates met with in the urine, and a careful and exhaustive account of glycosuria with the quantitative estimation of sugar by the author's cupric method—for which perfect accuracy, simplicity, rapidity and reliability are claimed—and by Ultzmann's polariscope. The well-known instability of Fehling's solution is remarked upon, and the greater reliability of Professor Haines' cupric test is pointed out, together with the precautions to be adopted to prevent the copper reduction by such reducing agents as creatinin, uric acid, the vegetable alkaloids, &c., and its correction if necessary by the phenylhydrazin test, a coloured plate of phenylglucosazone crystals after v. Jaksch being given. An ample account of acetoneuria follows, as also Ehrlich's diazo reaction in typhoid urine, its prognostic deductions and fallacies, together with a description of the ptomaines and leucomaines, and the urine as a toxin. The chapters devoted to the urinary sediments, organic, inorganic, and micro-organismal, and their clinical significance, are excellent, and the illustrations, chiefly after Peyer, good. Coloured plates after Peyer, of uric acid crystals and ammonium urate are also given, but the value of this method of illustration from a realistic and educational point of view is open to question. It appears to us that such are not worth the time and money expended upon them. There is, however, a useful coloured plate of tubercle bacilli in the urinary sediment after v. Jaksch. Under the heading *Filaria Sanguinis Hominis*, we notice several allusions to Dr. Patrick Manson as *Dr. Mason*, which, with other slight inaccuracies in the text, will doubtless be corrected in future editions. Part I. concludes with an account of gravel and calculi, and is well described from all points of view.

Part II. briefly deals with diseases of the kidneys, ureters

and bladder. Commencing with a short anatomical account of these organs, and the various methods of physical examination, the impossibility of detecting moderate enlargements of the kidneys by percussion is very properly recognised. We think greater stress should have been laid upon the value of combined rectal and bimanual palpation in infants and young children, for by this means we have been able to detect abnormalities such as a horse-shoe kidney, enlargement of the ureter, and a calculus in that duct. The author, after an account of the causation of the various diseases, then describes the character of the urine, next the prominent clinical features and the differential diagnosis where necessary. Some useful illustrations after Peyer are to be found in the text. This section of the work is concluded by a description of the changes in the urine occurring in other diseases.

The appendix is a lucid and epitomised account of much that has gone before, applied to the examination of urine for life insurance, and should prove of service to the reader who requires his mental pabulum in a nutshell, and not too learned and scientific. We would, however, call attention to the following passage, page 334: "If the colour be very light (watery), it suggests diminished specific gravity, possibly hydruria, diabetes insipidus." Surely the first impression would rather be that the patient was "nervous," for the passage of watery urine, of specific gravity as low even as 1001·3, is not very uncommon in excitable patients who are up for a medical examination. That such occurs should be clearly stated.

We can confidently recommend this work to students and practitioners alike, and trust that the many good points of this book will ensure for it a well-deserved success.

GEORGE CARPENTER.

THE ETIOLOGY, PATHOLOGY, AND TREATMENT OF INTES-
TINAL FISTULA AND ARTIFICIAL ANUS. By N. SENN,
M.D., Ph.D., LL.D. *Trans. Chicago Gyn. Soc. and Amer.*
Journ. of Obstet., September, 1894.

(Concluded from page 391.)

Treatment.—The treatment of an intestinal fistula must have for its aim closure of the abnormal opening with as little interference as possible with the lumen of the bowel. The statement has been made, and is borne out by clinical experience, that many intestinal fistulæ close spontaneously. This favourable termination may be expected in cases in which the opening in the bowel is small, the immediate cause of a benign and temporary character, the general health of the patient not much impaired, and the fistulous opening in the bowel so located that it can readily become attached to the parietal peritoneum or the serous investment of an adjacent organ. The spontaneous healing of an intestinal perforation is always followed by permanent parietal or visceral adhesions. In fistulæ resulting from tuberculosis, malignant disease, and actinomycosis, spontaneous healing, from the very nature of the primary cause, is out of the question, and in the majority of these cases operative treatment with a view of closing the fistula is contra-indicated. The operative treatment in such cases deserves consideration only in the event that the primary cause can be completely eliminated before an attempt is made to restore the continuity of the bowel. In fistula caused by malignant disease, in which the extent of the primary cause has rendered a radical operation inapplicable, it may be advisable to secure rest for the diseased part of the intestine by establishing an artificial anus on the proximal side. In the treatment of tubercular and actinomycotic fistulæ the primary disease must receive proper attention, and, in case it is amenable to successful treatment, the fistula will heal spontaneously or is subjected later to appropriate surgical treatment. Before I proceed further to the discussion of the surgical treatment of

intestinal fistula it is important to refer briefly to a few of the more important points of the—

Pathological Anatomy of Intestinal Fistula.—For the sake of simplicity I will describe the different forms of intestinal fistula as we observe them on the surface of the body, although the same remarks will apply to the internal fistulae where similar conditions are developed.

Intestinal Fistula.—Intestinal fistula as defined in the introductory remarks of this paper presents itself in one of two forms: (1) A fistulous tract leads from the surface to the opening in the intestine; (2) The mucous membrane of the intestine lines the fistulous tracts, and is continuous with the skin on one side and the mucous lining of the intestine on the other. In the first variety the opening in the bowel is more or less distant from the surface, and the tract is lined by granulations. In the second variety the intestinal wall reaches the surface, and the margins of the opening in the bowel form the border of the external opening, the entire fistulous tract being lined by mucous membrane. In both instances the opening in the bowel is lateral, the intestinal tube either straight or slightly curved, presenting no mechanical impediments to the fæcal current.

Artificial Anus.—The interruption, partial or complete, of the fæcal current at or in the immediate vicinity of the fistula is usually due to one of three causes: (1) Intestinal obstruction below the fistula; (2) Flexion of the bowel at a point corresponding with the location of the fistula; (3) The presence of a spur opposite the opening in the bowel. If perforation of the bowel takes place in consequence of an intestinal obstruction, the cause or causes which have given rise to this accident maintain the obstruction and all of the intestinal contents escape through the fistula, which then serves the purpose of an artificial anus. If the perforated part of the bowel becomes flexed by adhesions or otherwise, the flexion narrows the lumen of the bowel and directs the fæcal current towards the abnormal outlet. Under such circumstances a considerable part of the intestinal contents

necessarily escapes through the fistulous opening. If the flexion becomes more acute the intestinal wall opposite the opening forms a spur—promontorium (Scarpa), éperon (Dupuytren)—which when fully developed completely intercepts the fæcal current and transforms the fistulous opening into an artificial anus.

From these remarks it necessarily follows that spontaneous healing can only be expected in cases in which the fistulous tract is not lined by mucous membrane, and in which the fæcal current meets with no impediment by flexion or spur formation. As the fistulous opening in the bowel is often beyond the reach of an examination to determine the actual conditions, time plays an important part to enable the surgeon to determine whether or not surgical interference is necessary. In the absence of an *indicatio vitalis* an operation should be postponed until the clinical course has demonstrated that Nature's resources are inadequate to accomplish the desired object. An early operation is demanded if the fistula involves the upper part of the small intestines, and the escape of chyle endangers life from inanition. In the absence of such an indication, and in the absence of positive proof that spontaneous healing is impossible, conservative treatment should be continued until the indications for a radical operation are established. A carefully selected diet, attention to the condition of the bowels, rest, compression over the fistulous tract, and antiseptic treatment of the suppurating tract, embrace the leading indications of the expectant treatment.

Surgical Treatment.—The surgical treatment must be governed by the pathological conditions which characterise each individual case. A careful inquiry concerning the etiology and pathology in each case is therefore necessary in order to enable the surgeon to select the appropriate therapeutic resources.

Cauterisation.—Cauterisation of the fistulous tract is useful not only in expediting spontaneous healing in cases in which such a result is to be anticipated, but also for the

purpose of removing anatomical conditions incompatible with such a termination. Nitrate of silver is most efficient in stimulating the process of repair in cases in which the tract is lined by flabby, infected granulations. Benefit from this agent can only be expected if it can be applied the whole length of the canal. Its application is worse than useless if the entire tract is not accessible either on account of its length or tortuous direction. If the fistulous tract is lined by mucous membrane, is short and readily accessible in its whole length, the Paquelin cautery can be resorted to with advantage. The cauterisation must be made deep enough to destroy the entire thickness of the mucous membrane. On separation of the tubular eschar the fistulous opening is enlarged, and for a time more of the intestinal contents escape through it; but in a short time the canal becomes blocked by granulations, which eventually result in its closure. Before using the cautery the length of the tract must be carefully determined, in order to protect the bowel against injury from the point of the instrument. The same instrument is of value in the treatment of larger fistulæ lined by mucous membrane not complicated by mechanical impediments to the fæcal circulation. I have resorted to this procedure in a number of cases of surface fistulæ lined by mucous membrane, and have been well satisfied with the results. Cauterisation may sometimes be employed advantageously in the treatment of internal intestinal fistula, as shown by the following case recently examined and treated before the class at Rush Medical College. The patient was a house-wife, 25 years old, with a good family history. The present trouble dates back to childbirth five and a-half years ago. Soon after confinement she suffered from suppurative mastitis. Six months later she had an attack of what was called inflammation of the bowels, being confined to bed two weeks, followed by diarrhœa. Later the diarrhœa alternated with constipation. Two and a-half years ago an abscess formed in the left ischio-rectal fossa, which broke in the gluteal region, two inches from the anus, two or three months

later. Stools later contained blood but no pus. Second opening appeared six months later in left inguinal region, from which gas and fæcal matter escaped from the first, later intestinal contents from the first opening. Rectal examination revealed an indurated area about four inches above the anus, in the centre of which a small opening could be felt. The patient was brought to the clinic with the expectation that a laparotomy would be made for the treatment of the intestinal fistula. Injection of peroxide of hydrogen through the inguinal fistula was followed by the escape of white foam from the opening in the rectum, which could be plainly seen through a rectal speculum. The same was observed following a similar injection into the gluteal fistula, showing that both abscess cavities communicated with the same intestinal fistula. It was my intention to close first the rectal opening. The patient was placed under the influence of an anæsthetic, and while in the Trendelenburg position, the rectal opening was freely exposed by using two Sims specula. A probe was passed from the rectum into the abscess cavity, which served as a guide to the needle point of the Paquelin cautery with which the fistulous tract was thoroughly cauterised. For a few days more fæcal matter escaped through the fistula, but in the course of a week the cauterised tract was found blocked by granulations which prevented even the escape of gas. The patient has continued to improve, and at present the rectal opening is almost closed, the discharge of pus from the abscesses greatly diminished, and every prospect that this simple treatment will be followed ultimately by complete closure of the fistula and healing of the abscesses.

Drainage of Abscess Cavity.—An abscess cavity, interposed between the intestinal opening and the fistulous tract on the surface, or in one of the pelvic organs, constitutes often an insurmountable obstacle to spontaneous healing. In many such cases the abscess cavity is imperfectly drained and is being continually contaminated by fæcal material. If the abscess is so located that it can be safely and more efficiently drained, such a procedure will often accomplish all that is desired.

This method of procedure is particularly indicated in the treatment of pelvic abscesses complicated by intestinal fistula. It must, however, not be forgotten that under such circumstances the organs in the vicinity of the abscess are often displaced by inflammatory adhesions and exposed to injury in efforts to secure better drainage. I will cite a case in point that came under my own observation.

A lady, aged 35 years, applied to me for treatment of an intestinal fistula in the left groin. The fistula was preceded by a pelvic abscess on the same side, which was opened above Poupart's ligament. Several weeks later gas and fæcal matter escaped through the opening. This condition had existed for two years. Periodical discharge of increased quantity of pus satisfied me that the original abscess cavity had not obliterated, owing to imperfect drainage. As I could find some induration on the left side of the uterus, I decided to drain the abscess into the vagina. While the patient was under the influence of an anæsthetic, the external opening was enlarged sufficiently to enable me to follow the tortuous canal into the pelvis to the left side of the uterus. With the left index finger in the vagina I could feel the point of the forceps when the instrument was pushed through the tissues, and the mucous membrane incised over the point. The canal was dilated and a rubber drain, half an inch in diameter, drawn through, thus establishing through drainage. The abscess cavity was thoroughly irrigated. When I visited the patient the next day I was informed that she had passed no urine since the operation. I found the bed saturated with urine. Mistrusting what had happened, I injected into the bladder warm boric acid solution, which escaped at once through the vaginal part of the drain. It was evident that I had trans-fixed with the forceps the displaced bladder. The drain was removed and a Sims catheter inserted into the bladder. The drainage of the abscess cavity from the surface was continued. The wounds in the bladder healed under this simple treatment in the course of a week, and a few weeks later the fistulous opening closed permanently.

Mechanical Repression of Spur.—The spur has been recognised as a cause of the persistence of intestinal fistula for a long time, and different methods of treatment have been devised for its removal. Desault advised the insertion of a roll of charpie into the bowel with a view of increasing the size of the lumen of the bowel and of repressing the spur. Banks inserted a large rubber tube, which he fastened in the fistula, for the same purpose. As the formation of the spur takes place in consequence of the flexion of the bowel, we can readily understand why all such mechanical devices have proved of so little value.

Removal of Spur.—The first efforts to remove the spur by operative procedure were made by Schmalkalden in 1795. He removed the spur with scissors and knife. The disastrous results which must have necessarily followed this operation led Dupuytren to accomplish the same object by a bloodless method. He devised for this purpose a clamp (enterotome), which he applied to the spur, and by tightening the screws connecting the branches, made it cut its way through the tissues by causing linear necrosis of that part of the septum included in its branches. The instrument effects its object in from three to eight days. It is then again applied on the side of the linear section, and the same procedure is repeated until the spur is removed. The results of this operation were quite satisfactory before laparotomy was made a safer procedure.

In 1824 Dupuytren reported 41 cases, of which number 29 were cured and only 3 died. Later Heiman collected 83 cases with a mortality of 4·83 per cent. The most recent statistics collected by Körte comprise 111 cases with 11 deaths. In many of the cases, however, the fistula remained. After the removal of the spur the margins of the fistula were usually destroyed with the actual cautery. I shall show further on that the spur develops in consequence of flexion, and that if the flexion is arrested in the operative treatment of artificial anus its removal is superfluous. The recent advances made in intestinal surgery will render Dupuytren's operation obsolete in the near future.

Closure of Fistula by Plastic Operation.—The closure of intestinal fistula by plastic operation was introduced by Dieffenbach. It was not his intention, by the operation which he devised, to close the opening in the bowel at once, but to cover it with a bridge of skin, leaving the closure to be accomplished later gradually by granulation. Between two elliptical incisions he excised the margins of the fistulous opening and the skin surrounding it.

A bridge of skin is made by making on one side of the oval defect and the necessary distance from it a curved incision twice the length of the wound, and, by undermining the skin, mobilise a bridge with which to cover the opening. The oval wound was closed by interrupted sutures. The operation leaves a crescent-shaped raw surface produced by sliding the bridge, which was left open to heal by granulation. This operation, as well as plastic closure by pedunculated flaps, had their field of usefulness before abdominal operations were rendered comparatively safe by an improved technique and the general adoption of aseptic precautions, but are seldom, if ever, resorted to at the present time.

Suturing of Fistula without Opening the Peritoneal Cavity.—The closure of an intestinal fistula by vivifying its margins and suturing, without detaching the bowel or opening the peritoneal cavity, has not yielded very satisfactory results. The operation is only adapted for cases in which the intestine is attached to the abdominal wall and the fistulous opening is readily accessible, and where no canalisation impediments are present. I have succeeded in two cases in closing the fistula completely and perfectly by one operation.

The first case was a young man, 18 years old, who was attacked suddenly by circumscribed suppurative peritonitis in the upper part of the abdominal cavity. An abscess formed, which was opened at the left border of the left rectus muscle a little below the level of the umbilicus. A few days later nearly all of the intestinal contents escaped through the opening. The character of the chyle which escaped indicated that the intestinal perforation was near the stomach.

The amount of intestinal discharge gradually diminished in quantity, the patient's general condition improved, but the fistulous opening failed to close. When he came under my observation the external opening had contracted so that it would admit only an ordinary grooved director. A long probe could be inserted its entire length. The patient was prepared carefully for the operation by laxatives and careful dieting. The fistulous tract was enlarged in an upward direction, when, upon retraction of the margins of the wound, I found an opening in the intestine large enough to admit the little finger. The intestine was adherent to the abdominal wall. I excised the whole fistulous tract, and with it the margins of the opening in the bowel, without opening the peritoneal cavity. After satisfying myself that no spur or other canalisation difficulties were in the way of a normal faecal circulation, I sutured the wound by first bringing in accurate contact the mucous membrane by fine silk sutures, placing them close together. In the next row of buried sutures of catgut I included the entire thickness of the bowel wall *minus* the mucous membrane. The next row of buried sutures of the same material included the entire thickness of the abdominal muscles, and finally the skin was sutured separately, using for this purpose again fine silk. The antiseptic dressing was retained by broad strips of adhesive plaster. Stomach feeding was prohibited for three days. The entire wound healed under one dressing by primary union. The operation was performed several years ago and the patient has remained in perfect health. I have no doubt that in this case the peritonitis and abscess resulted from perforation of a duodenal ulcer. The thickness of the intestinal wall, as well as the size of the lumen of the bowel, indicated that the fistula occupied this part of the intestinal tract. In the second case, a man aged 30, the fistulous opening involved the cæcum and formed after an attack of appendicitis. The opening was large enough to introduce two fingers, and nearly all of the intestinal contents escaped through this abnormal outlet. Four or five operations had

been made, with the result that after each operation the size of the intestinal opening was increased. The patient was subjected to preparatory treatment for at least a week, when a similar operation was performed as in the last case, with the same satisfactory immediate and remote results. In advising a resort to this, as far as life is concerned an absolutely safe operation, I must insist in the first place upon the necessity of freely excising the fistulous tract, removing all of the scar tissue and a circular strip of the mucous membrane lining the margins of the fistulous opening in the bowel, as well as the importance of bringing in accurate apposition the different anatomical structures by several tiers of buried sutures. A conscientious observance of these precautions will frequently reward the surgeon by success in closing an intestinal fistula by extra-peritoneal suturing.

Intestinal Anastomosis.—The formation of an intestinal anastomosis in the treatment of an intestinal fistula is indicated in cases in which the extra-peritoneal methods are not applicable or have proved unavailing and the usual intra-peritoneal operations are contra-indicated. Under such circumstances the exclusion from the fæcal circulation of the perforated loop by the formation of an anastomotic communication between the afferent and efferent limbs of the loop, will remove the annoyances incident to an intestinal fistula and place the parts in a more favourable condition for spontaneous healing or more successful surgical intervention. The anastomotic opening should be made at least two inches in length. The operation can be performed most safely by the use of decalcified perforated bone plates or by Czerny-Lembert sutures. For the purpose of showing the value of this method of procedure in rare cases I will relate a case that came under my observation a few years ago. A lady, 30 years of age, suffered for several weeks from pelvic peritonitis, which resulted in the formation of an abscess, which was opened above Poupart's ligament on the left side. A few days after the abscess was incised gas and fæcal matter escaped from this opening. Additional abscesses on the

same side appeared, which were either opened externally or discharged through the first abscess cavity. The fæcal fistula remained. The case came under my charge in my hospital service nearly a year after the first attack. The patient was greatly emaciated; more than one-half of the intestinal contents escaped through the abnormal outlet. The fistulous tract led down into the cavity of the pelvis to the left of the uterus. Rectal insufflation of hydrogen gas demonstrated that the fistula was above the ilio-cæcal valve. After a few days of preparatory treatment I opened the abdomen and found the lower part of the ileum rolled up into a mass by numerous and firm adhesions. I made a faithful attempt to unravel the mass, but had to abandon the task. I could not find the perforated part of the intestine. The mass comprised from three to five feet of the lower part of the ilium. Excision of this mass was absolutely out of the question, owing to the patient's general condition and the number and character of the adhesions. I finally succeeded in finding the intestine on the proximal side, and established between it and the adjacent sigmoid flexure a communication with the aid of large decalcified perforated bone plates, and closed the external incision. Very little fæcal material escaped from the fistula after the operation, while the discharges from the bowel became more copious and liquid. It was evident that the fæcal current had been diverted away from the numerous adherent coils of the lower part of the ilium into the sigmoid flexure. The patient improved in general health and was relieved from the annoyances incident to an intestinal fistula. A number of times the fistulous opening closed but re-opened; this occurrence is always attended by a limited discharge of pus. The abscess cavity has evidently never healed completely and undoubtedly maintains the fistula. I anticipate that the excluded part of the intestinal canal will continue to undergo progressive atrophy, and that ultimately the fistulous opening will close spontaneously. So far the operation has resulted in restoring the continuity of the intestinal canal by excluding from functional activity the

partially impermeable lower part of the ileum. It appears to me that a similar procedure would often prove of great value in the treatment of vesico-intestinal fistula in which the operative closure of the opening and enterectomy are impracticable.

Enterectomy.—The mortality attending enterectomy and circular enterorrhaphy in the treatment of intestinal fistula and artificial anus remains great even in the hands of experienced operators. The statistics of Reichel give a mortality of 37.8 per cent, and those of Hertzberg 27 per cent. In view of this fact it is apparent that this operation should be reserved for cases not amenable to successful treatment by safer procedures. I am confident that the indications for this operation can be limited to *exceptional* cases. If the intestine is not attached to the abdominal wall, it is much safer to open the free peritoneal cavity in search for the affected part of the intestine than to follow the fistulous tract as a guide. If possible, the intestine should be tied on each side of the fistula with a strip of gauze or a rubber band before it is detached, in order to guard more efficiently against fæcal extravasation. The operation should be performed with the patient in the Trendelenburg position and the peritoneal cavity amply protected by aseptic compresses during the resection and suturing. After the resection the continuity of the bowel should be restored by circular enterorrhaphy by Czerny-Lembert sutures.

Preliminary Transverse Suturing of the Intestinal Opening as a Prophylactic Measure against Infection during the Operation for Artificial Anus.—There can be little doubt that the operative treatment of intestinal fistula or artificial anus requiring opening of the abdominal cavity has been attended by an alarming mortality, owing to infection caused by the escape of fæces through the intestinal opening. Packing the opening with gauze or cotton is a very inefficient way in which to prevent fæcal extravasation. The use of clamps and ligatures on each side of the opening in the bowel is equally unreliable. It appears to me the only safeguard against

this course of danger is preliminary closure of the intestinal opening by suturing, placing the sutures so close together as to absolutely prevent the escape of any of the intestinal contents. After this has been done the field of operation is once more thoroughly sterilized before the abdomen is opened and the intestine detached. The sutures should include all of the tunics of the bowel. With few exceptions this row of sutures will remain as Czerny sutures, to be buried after the bowel has been detached by Lembert stitches. I have already made the statement that I look upon flexion of the bowel as the most important factor in producing the spur, and the measures which are calculated to correct the flexion will prove useful in removing the spur. In artificial anus, produced accidentally or intentionally, the flexion is caused by the prolapse of the intestinal loop into, and sometimes even beyond, the opening in the abdominal wall. If the intestine is detached the flexion is diminished or completely corrected, and its recurrence is prevented by transverse suturing of the intestinal opening. I am fully convinced of the correctness of these statements, and will corroborate them by the report of two cases of artificial anus which I operated upon in the clinic of Rush Medical College during the last session. The first patient was a man 29 years old, Irish-American. About a year before he entered the Presbyterian Hospital he was taken suddenly with severe pain in the right iliac fossa. The attending physician made a diagnosis of appendicitis, and four days later opened an abscess at a point about two inches towards the inner side of the anterior superior spinous process of the ilium. A few days later fæces escaped through the opening. An attempt was made to prevent the escape of fæcal matter by applying a compress. Then followed twelve operations, with the intention of closing the fistula, in one of the hospitals of St. Louis. The only result effected by the operations was increased size of the opening. When the case was presented in the clinic the opening in the abdominal wall and the anterior wall of the cæcum was large enough to insert three fingers. In the centre of the opening I found a well-developed spur which

effectually prevented the entrance of any of the intestinal contents into the colon. The border of the opening in the abdominal wall was lined by the ectopic mucous membrane of the cæcum. The ileo-cæcal valve could be seen and felt below the spur. The patient was prepared for the operation by dieting, laxatives, and daily warm bath for a week. The operation was commenced by suturing the oblong vertical intestinal opening transversely, using for this purpose fine silk and an ordinary sewing needle. After the lumen of the intestine with its contents was shut off from the field of operation, the surface was once more thoroughly disinfected. The next step in the operation consisted in including in two elliptical incisions the margins of the abdominal opening and the scar tissue in its vicinity. The peritoneal cavity was opened by a straight incision extending downward from the lower angle of the two incisions. The bowel was detached from the abdominal wall and drawn forward into the external incision. The strip of skin and scar tissue was carefully trimmed away from the bowel with scissors, when the provisional sutures were buried by a row of Lembert stitches.

The prolapsed part of the bowel was cleansed, dried, and replaced into the abdominal cavity and the external wound closed by four tiers of sutures. The usual antiseptic dressing was applied and confined in place by broad strips of adhesive plaster. Not a single untoward symptom followed the operation. The wound healed throughout by primary intention. The bowels responded to a laxative on the third day and subsequently moved daily without further assistance. The patient left the hospital at the end of four weeks with instructions to wear a pad for at least six months.

The second case was a girl 9 years old. During October last she suffered from an acute attack of appendicitis, which resulted in the formation of a large abscess. The abdomen was opened, the perforated appendix was removed. It was noticed that the anterior wall of the cæcum presented a large gangrenous patch. It was deemed advisable to anticipate perforation by excluding this area from the free peritoneal

cavity by a ring of sutures uniting the visceral with the parietal peritoneum. The balance of the incision was closed with the exception of a space for drainage. The patient's general condition improved promptly after the operation. The gangrenous part sloughed away, leaving a large opening in the cæcum. Through this opening nearly all of the intestinal contents escaped, as an efficient spur formed at the middle of the opening. The contact of fæces with the skin produced in this case an intense and diffuse dermatitis. When the patient entered the Presbyterian Hospital in January, 1894, the dermatitis involved more than one-half of the anterior surface of the abdomen. The treatment of this affection proved very tedious, so that two months later, when the operation was performed before the class of Rush Medical College, a patch of skin the size of the palm of the hand still remained in a state of intense irritation.

The same operation was performed as on the preceding patient, with similarly satisfactory immediate and remote results. Instead of constipation the operation was followed by diarrhœa, which continued for several days, provoked probably by bringing the intestinal contents in contact with the colon, which had been almost completely excluded from the fæcal circulation for five months. The wound healed by primary intention throughout. The dermatitis disappeared promptly after the removal of the cause. The patient left the hospital in perfect health four weeks after the operation. A study of these cases has convinced me that the provisional closure of the intestinal opening by transverse suturing before using the knife is the most efficient prophylactic measure against infection, and that resection of the intestine for fistula and artificial anus can be avoided in the majority of cases, and that in its place transverse suturing and correction of the flexion will yield better results.

"IGNAZ SEMMELWEIS." (An Oration given by Ferdinand Hueppe, at the Unveiling of his Memorial at the Eighth International Congress of Hygiene and Demography at Budapest, September, 2, 1894.) *Berlin*: August Hirschwald.

Ignaz Phillip Semmelweis was born at Ofen (Buda) on July 1, 1818, his father being a well-to-do German merchant of the Roman Catholic persuasion. His mother's maiden name was Theresie Müller. He went to school in Ofen, and to the Gymnasium in Pest. At 19, against his father's wish, who wanted him to take up law, he went to study medicine in Vienna, and he completed his medical curriculum there and partly at Pest. He graduated in 1844. His first inclination was towards internal medicine, under Skoda's influence, but he could not obtain a post as assistant to Skoda. He therefore prepared for midwifery, and became assistant in 1846, in the first obstetric clinic, with Klein.

With a Hamlet-like nature, he did not come to the work which has made his name immortal from a special passion for investigation, nor from the desire to satisfy any exceptional ambition. It required a mighty stimulus, affecting his whole being, to awake him. This stimulus arrived. A terrible mortality had overwhelmed the first midwifery clinic for many years. As he wrestled with these sad conditions he had no rest day or night, and he determined some special points which had partly struck others before him.

The obstetric department of the Vienna General Hospital was founded in 1784, and in thirty-nine years Zeller and Boër had a mortality of 1·25 per cent. from puerperal fever, and only seven times did the mortality exceed 2 per cent. Klein, however, in eleven years, had a mortality of 5·03 per cent. In 1833 the obstetric clinic was divided, and up to 1839 Klein, in the first division, had a mortality of 7·36 per cent., and Bartsch, in the second, 6·62 per cent.—no great difference. In 1839 the first was 5·5 per cent., in 1840 9·5 per cent. ;

while the second was 4·5 per cent. and 2·6 per cent. respectively. From 1841 to 1846 the first had a mortality of 9·92 per cent., the second 3·38 per cent. A murderous puerperal epidemic reigned in the first clinic for twenty months—1841-1843—with an average mortality of 16·1 per cent., and maximum monthly rate of 31·3 per cent.

No one would enter this seminarium mortis. Everybody had his theory. Tetanus, or inflammation of the uterine vessels, decomposition, or mounting of the milk to the head, or milk metastasis, were the reasons of some; while others blamed primary inflammation of the uterus or adjacent pelvic organs; and others again the uncleanness of the sewers. "Cosmic-telluric influences," which meant nothing definite, were convenient terms to hide want of competent ideation. The occasional epidemic occurrence caused the miasmatic contagious view of puerperal fever to be accepted. All these and other theories occasionally rose to the surface and loomed largely in view, but not one of them offered any means of fighting the disease.

Semmelweis could at first only show that the course of puerperal fever was extremely unfavourable at the first clinic, less so at the second clinic, and quite markedly more favourable in the city generally. At both clinics there was overcrowding, bad ventilation and feeding, and insufficient attendance. It was therefore something peculiar to the first clinic. The town cases always did well except when protracted, and the infection often went in runs.

In 1847 Kolletschka, the pathologist, died of pyæmia, caused by pricking his finger while making an autopsy.

"With the lightning thought of true genius, Semmelweis now saw (1847) at one glance the relationship which had so far been sought for in vain. Puerperal fever became to him wound infection, pyæmia of the wounded internal surface of the uterus.

"The wound itself is not the cause, but the soiling of it with cadaverous parts, with septic poison, is the external cause. The physicians and students carry over with their

hands—which are soiled with dissecting and not sufficiently cleaned—the mischief to healthy but wounded women.

"This was for Semmelweis in accordance with the observation that decomposing organic matters can induce decomposition and putrid infection in living organisms. To avoid the infection *en masse*, as caused from the action of dead matters introduced by the finger, one must destroy the dead stuff clinging to the finger, and for this chlorine—and especially in the form of chlorinated lime solution—is a suitable means."

This is the practical contents of his first communication on the subject, which at once made clear the cause of the striking mortality from puerperal fever under Klein.

When Semmelweis's regulations were adopted, the mortality fell to 3·08 per cent. in Klein's clinic. It soon rose again and in 1848 Semmelweis extended his demands to the point that the hands of the examiners, the instruments and the diapers, should in every case be disinfected previously, and that the diseased should be separated from the healthy patients. After carrying out strict and general disinfection, the mortality of the first clinic from puerperal fever sank still more; in 1848 down to 1·27 per cent. in spite of the continued examinations by the students.

As regards the general affairs of Semmelweis at this time, if we remember in racy English that he was "scoring off his chief," any of us who have had a chief will soon have a clearer idea of his troubles than any particulars would give us. Suffice it to say that he lost his post as assistant in the first clinic.

Simpson thought that the matter was settled when he remarked that puerperal fever had long been known to be contagious, and that the English Lying-in Institutions were a model for the Viennese to copy. How very like the British medical man this is! Willis first used the name—puerperal fever—but Denman, in 1682, pointed out that puerperal fever was carried to healthy lying-in women by accoucheurs and midwives. Dr. Hueppe points out, however, that this was

not enough, and even this was not clearly grasped by all. As regards Semmelweis's work, he was particularly struck with the want of knowledge concerning him exhibited by English physicians at the Seventh Congress for Hygiene in London, in 1891, when Hueppe coupled Semmelweis's name with those of Jenner and Lister. The chest note of absolute superiority which Simpson struck was scarcely well grounded when we find that the mortality in the General Lying-in Hospital in London was 12·82 per cent. in 1841, and 26·76 per cent. in 1838.

In France, Cruveilhier, in 1831, regarded lying-in women as wounded, and these wounds as being the source of puerperal infection, but so little did this affect the medical faculty that in 1851, and again in 1858, the Academy of Medicine, led by Dubois, spoke out against Semmelweis, notwithstanding Bretonneau's work on diphtheria, and the mortality at the Pitié in 1847 of 11·11 and in 1844 of 12·50 per cent.

Semmelweis, after many unsuccessful attempts, finally became Professor of Obstetrics in his own native town of Pesth in 1855.

The mortality in his clinic rose from 0·19 to 2·09, and then 4·05 per cent. in successive years. He was enabled to point out the necessity of isolating rooms, and sufficient air space and ventilation.

We cannot quote the whole story, but in 1864 Hirsch, in 1865 Veit, in 1866 Winckel, and in 1872 Fleischer joined on his side.

He did not live to enjoy his triumphs to the full, but only saw the beginning of the swinging round of opinion. In 1865 Semmelweis had to be placed in an asylum in Vienna, and, by the infection of a simple wound, he died on August 13, 1865, of pyæmia, the disease for the recognition and defeat of which he had done more than all the other medical men. A truly tragic fate, which has happened to other investigators in analogous circumstances.

Semmelweis was the *founder of aseptic wound treatment*. The antiseptic treatment founded by Lister in 1867 was

taken up chiefly in Germany. Antiseptic management of labour did not reduce the mortality in clinics to that of private practice, and now, as in surgery, there has been the recoil to aseptic treatment.

This recognises the healthy body as being fundamentally aseptic, and leaves it to the care of its normal powers; while the operator, his hands, his instruments, and his dressings are considered fundamentally septic, and must be accordingly treated before operation.

What are the figures we can quote to show some idea of Semmelweis's gift to the world? According to Böhr, in sixty years 363,627 active women died from puerperal fever, in the same time 360,000 persons died of cholera, and 431,287 persons died of small-pox. Now since these two latter figures include men, children, and old women, we can say that more women died of puerperal fever alone than of cholera and small-pox put together.

Dr. Hueppe closes his masterly oration with the following words:—"So has Semmelweis lived and worked: to the pride of his native town Budapest, to the glory of his Hungarian fatherland, to the fame of his German race, and to the common wealth of mankind."

It has seemed best to us to give somewhat fully the facts as extracted from Dr. Hueppe's oration without much commentary, because he has given the clearest succinct account of Semmelweis with which we are acquainted. It may be pointed out that Dr. Hueppe's opinion of English knowledge of Semmelweis's work is not quite accurate, and that no doubt the same practitioners who asked who Semmelweis was in 1891, would probably have had an equal acquaintance with the names of Schröder or even Virchow.

F. EDGE.

**SUMMARY OF GYNÆCOLOGY, INCLUDING
OBSTETRICS AND PÆDIATRICS.**

GYNÆCOLOGICAL.

**ON THE RESULTS OF THE REMOVAL OF THE OVARIES
FOR MYOMA.**

Hermes (*Arch. f. Gynäkologie*, vol. 48, part i., 1894) gives the after-results of this operation, based on the observation of 68 cases at Halle; of these, 30 (group A) were done by Fehling, and 38 (group B) by Kaltenbach.

The views of leading German gynæcologists as to the place and value of the operation are first given. *Martin* objects to it on the grounds, firstly, that in a number of cases hæmorrhage continues; secondly, that myomata often begin to grow more rapidly after the physiological menopause.

Winckel in 1890 modified his former unfavourable opinion of the operation, but remarked that it remained a mutilation, and was to be resorted to only in exceptional cases.

Olshausen also in 1890 entertained an increasingly favourable opinion of it, as he considered that it might be relied on to stop hæmorrhage and reduce the size of the tumour. He thought it especially suitable for interstitial fibroids of medium size.

Hofmeier (1892) gives the operation a place; he considers it contra-indicated in very large tumours, especially if fibrocystic; in fibroids affecting the cervix, and extending into the pelvic connective tissue; and in subserous fibroids. It is indicated in medium sized interstitial and submucous growths when hæmorrhage is the prominent symptom. When pressure symptoms are most marked, he prefers myomotomy.

Fritsch (1894) and *Pozzi* (1892) hold much the same views.

Leopold recommends removal of the appendages with small tumours up to the size of a child's head, as long as the patient can stand laparotomy and the ovaries are accessible; otherwise he prefers vaginal extirpation, leaving the ovaries behind. With larger tumours he resorts to myotomy.

Fehling (1893) performs the removal of ovaries in (1) all rapidly growing tumours which have not yet reached the navel; (2) in growing tumours occurring in young women of 20 to 30; (3) in interstitial fibroids, broad-based subserous or submucous fibroids; (4) in intra-ligamentous tumours.

Wiedow (1889) gives the operation a wide scope, reserving myotomy for (1) cystic fibroids; (2) pedunculated subserous or submucous growths; (3) very large tumours.

Hermes then gives particulars of the after-history of all the cases in group A and of 25 in group B. The remaining 13 in group B were in Kaltenbach's private practice, and no data were available except the mortality.

The age of the patients was :—

	20-30.	30-40.	40-50.
Group A...	1	15	14
Group B...	—	7	18
	1	22	32

Civil state.—Eighteen patients were single, 37 were married.

Mortality.—In group A three cases died; in group B (38 cases) one died. In all, of 68 cases, 4 died, giving a mortality of 5·8 per cent. The statistics of other operators are given, viz. :

	Cases.	Deaths.	Percentage.
Wiedow	66	5	7·6
Leopold	{ 35	4	11·0
	{ 40	2	5·0
Hofmeier	15	2	13·3
Olshausen	{ 13	4	31·0
	{ 42	4	9·5
Freund	23	2	8·7
Total	244	23	9·4

Adding to these Fehling's and Kaltenbach's results, the total is 312 cases, 27 deaths = 8·9. The cause of death in 61·5 per cent. was septic peritonitis; showing clearly how much the mortality is capable of reduction.

Results.—Hermes considers two factors only: arrest of hæmorrhage and shrinking of the tumour. Particulars of hæmorrhage are given in 51 of Hermes' collected cases: menopause was established in 40 = 78·4 per cent. Irregular hæmorrhage continued in 9 cases; regular in 2.

In the hands of other operators the menopause was attained in the following proportion of cases:—Wiedow, 97 per cent.; Glaevecke, 88 per cent.; Olshausen, 82 per cent.; Hofmeier, 92 per cent.; Leopold, 96 per cent.

The condition of the tumour after operation was noted in 48 cases, namely:—shrinking in 45 cases = 94 per cent.; no alteration in 1 case = 2 per cent.; increase in 2 cases = 4 per cent.

Other observers found diminution in size as follows:—Wiedow in 97 per cent.; Glaevecke in 90 per cent.; Leopold in "nearly all cases."

In several cases, both among those collected by Hermes and in those of other operators, some further operation was required, such as enucleation of a submucous fibroid, *per vaginam*.

There were several instances recorded in which part of an ovary was left behind, and was discovered when the abdomen was opened later for further operation. To secure good results it is necessary that cases should be selected; Hermes agrees with Wiedow's enumeration of conditions which contra-indicate operation. Moreover, if, when the abdomen is opened, it is found that it will not be possible to completely remove both ovaries, it is better to close the wound again without attempting any removal, or to adopt some other operation. Hermes refers to the objection which some have raised to the operation, on the ground that it is a "mutilation," and a principle opposed to conservative surgery, to remove healthy ovaries. In the majority of cases the

objection is invalid, because the ovaries and tubes are unhealthy. *Wehmer*, Kaltenbach's assistant, found that "the ovaries, in the case of large myomata, almost always show pathological alterations, from simple hypertrophy to small-cyst formations; while the tubes were in a large number of cases either occluded by secretions or dilated into hydrosalpingitic sacs." *Extermann* found the ovaries degenerated in 9 cases out of 10 examined. *Bulius* and *Popow* found corresponding results.

In the 55 cases which *Hermes* records, the condition of the appendages was noted in 31; as follows:—

	Cases.
Ovaries unaltered	2
Ovaries hypertrophied	2
Ovarian cysts	4
Fibrosarcoma of ovary	1
Pyosalpinx	1
Hæmatosalpinx	2
Small-cystic degeneration	19

That is, pathological conditions were found in 93 per cent.

Hermes leaves unconsidered one of the most important points, viz., the proportion of cases in which other symptoms than hæmorrhage were relieved: nor does he in his summary make any reference to the mental condition of the patients, or their ability to resume their work. These points are incidentally mentioned in some of the notes of the cases.

He concludes his paper with several recommendations as to operative procedure. He advises that the stumps be cauterised, to lessen the risk of adhesion to the intestines. Trendelenburg's position is recommended as giving much greater facility for the operation. When there has been any soiling of the peritoneum with blood or secretions he advises flushing of the abdomen with warm normal saline solution.

Ergot, he says, gives very good results, in the cases where hæmorrhage persists in the first year after operation.

ARTHUR E. GILES.

ON THE CONSIDERATION OF THE VALUE OF CASTRATION
IN MYOMA OF THE UTERUS. By Dr. MAX FRANK,
Corr. Bl. f. Schweizer Aerzte, xxiv., 7, p. 201, 1894;
Schmidt's Jahrbucher, Band 244, No. 10, 1894.

From 1889, 116 patients with myomata of the uterus have been treated in the Bern clinic; of these sixty-nine were operated upon, and of these again twenty were treated by oöphorectomy. Of the latter twenty patients not one died from the operation. In three cases removal of the appendages could not be carried through cleanly, hence only seventeen cases come into consideration. The mean age was 40 years. In twelve cases hæmorrhage ceased entirely after the operation; in three cases atypical bleeding occurred again a few times for a short time and of small amount; in one case the periods occurred every four weeks, but with the loss of blood lessened by half; one patient escaped observation. In nine cases the tumours have lessened; in four cases remained unaltered; in one case it became larger, and in three cases no sufficient information was obtained. In the ten cases in which smarting and urinary troubles existed, these disappeared after the operation. In seven cases nervous troubles came on after the operation.

Frank comes to the conclusion that removal of the appendages as an operation for the troubles of myomata is occasionally to be recommended, especially when a more radical operation carries more danger with it, as is usually the case. If now and then this operation is performed without success, so that a radical operation becomes necessary afterwards, this is no ground, according to Frank, for becoming an opponent to it, since a large number of cases may receive benefit from this relatively light and favourable operation, and indeed receive permanent cure.

F. EDGE.

STATISTICS OF OPERATIVE TREATMENT OF FIBROID
TUMOURS OF THE UTERUS. By PROF. LEOPOLD.
Centralblatt f. Gyn., No. 26, 1894.

In his paper on the intra-peritoneal treatment of the stump in myomectomy, Leopold gives the following statistics of his operations for fibroids during the last four years :—

	Mortality.
46 Removals of submucous polypi through the vagina	0
40 " " appendages	2
21 Intra-peritoneal myomectomies	0
29 Extra-peritoneal " 	2
24 Total extirpation through the vagina	0

Altogether in the 160 cases, there were only 4 deaths or 2·5 per cent.

J. CLARENCE WEBSTER.

LE ALTERAZIONI DELL' ENDOMETRIO IN CASI DI FIBROMI
DELL' UTERO (THE ALTERATIONS IN THE ENDOME-
TRIUM IN CASES OF FIBROMA OF THE UTERUS), by
Dr. PIETRO MARCHESI, *Annali de Ostetrica e Ginecologia*,
December, 1894, No. 12, pp. 817.

Dr. Marchesi, after a lengthy paper in which he discusses the views of many other observers and authors, and instances several observations from the clinic of Prof. Chiarleoni made by him, concludes thus :—

(1) The presence of an interstitial fibroma, whether it be large or small, or the fibrous degeneration of all the uterine parenchyma, induces in the uterine mucosa simply hyperplastic or hypertrophic alterations, which chiefly affect the glands, but without sparing the connective tissue, which only in a few cases attains a high degree of hyperplasia. Not infrequently the appearance of the mucosa may be compared with that of a mucosa affected by fungous glandular endometritis.

(2) The slight inflammation which often accompanies such alterations, always manifests itself towards the deeper layers of the mucosa, and is probably of mechanical and infective nature, but this cannot be absolutely affirmed.

(3) The greater development of the connective tissue, mentioned as usually existing, by the majority of authors, on the site of the fibroma, exists, according to our researches, only in rare cases, the mucosa exhibiting also, in cases of large interstitial fibroids, everywhere the same alterations.

(4) Submucous fibromata produce, from their beginning until they are clearly intra-uterine, alterations similar to those caused by interstitial fibroids, but then cause atrophy in the immediate neighbourhood of the tumour, keeping up hyperplasia in the rest of the mucosa. When they have passed into the state of fibrous polypi, and the cervical cavity being dilated, until the tumour partially passes into the vagina, the parts exposed assume an investing epithelium like that of the os uteri. These tumours, more than in others, owing to the influences to which they are exposed from their situation, are subject to a true inflammatory process.

(5) In the case of subserous fibromata, the mucosa is subject to identical changes with those of interstitial fibroma, but in our cases were added other causes, which by themselves kept up the alteration of the mucosa, in one retro-flexion, in the other a totally fibromatous condition of the uterus.

GEO. GRANVILLE BANTOCK.

TREATMENT OF SUBMUCOUS FIBROID POLYPUS. By J. VEIT (Berlin). *Zeitschrift f. Geb. u. Gyn.* Bd. xxx., Hft. 1.

Veit describes a case in which after dilatation of the cervix he was unable to remove a polypus. In order to get more access to it he cut through the attachment of the vagina to the anterior wall of the cervix by means of a transverse incision, and then separated the bladder almost as far up as the isthmus. He then divided the anterior wall of the uterus by a median incision as far up as this point, and was thereafter easily able to remove the polypus. The incision was again closed and the vagina united to the cervix.

J. CLARENCE WEBSTER.

CHYLE CYSTS OF THE MESENTERY, WITH REPORT OF A CASE. By Dr. W. H. WENNING. *The Cincinnati Lancet-Clinic*, December 22, 1894.

A widow of large frame and healthy appearance came to Dr. Wenning for a large abdominal tumour which was said to have grown gradually during the last eight months, without any apparent cause, first in the left side and gradually implicating the whole abdomen. The uterus was completely prolapsed, and above it and through the fornix of the vagina there was a sense of fluctuation. For diagnostic purpose and to relieve the great tension, a small aspirator syringe was introduced, and a small quantity of milky fluid withdrawn; a second aspiration gave the same result. The fluid coagulated when exposed to the air. The pathologist who examined it thought it might be an unusual variety of ovarian fluid, or perhaps, the contents of a dermoid cyst.

On opening the abdomen (August 14, 1894), a large coil of intestine sprang out, which was held aside with hot cloths. Beneath was found a large cyst, translucent and filled, as it were, with a beautiful white substance. The covering was so thin as to resemble a veil spread over some white globular body. Upon the slightest puncture the cyst ruptured. . . . The entire mesentery was filled with these apparently globular bodies, varying in size from a foetal head to an orange, and in number amounting to at least fifty. At first appearance they resembled so many hard-boiled eggs—minus their shells—and were covered with a thin pinkish membrane imbedded between the layers of the mesentery. . . .

The great number, extent and character of these cysts precluded all possibility of thorough removal. An attempt was made to suture the mesentery as soon as rupture of the sacs had taken place. The veins of the mesentery were enormously enlarged, and the vascularity of the parts in general very much increased. The abdominal cavity was washed out, a ligature applied to all bleeding vessels, and the abdomen closed. Shortly after the first few sacs had

ruptured, it was found that the patient was rapidly sinking. The operation had to be brought to a quick termination. The patient, however, died from shock shortly after the operation.

A rapid *post-mortem* examination was made. The mesenteric veins and glands were found diseased; the veins were varicose and exceedingly soft, many of them ranging from one-third to one inch in diameter.

It is not stated if there was any hæmorrhage found. It seems from a subsequent statement by Dr. Wenning during the discussion before the Cincinnati Academy, that attempts at enucleation had been made, and the probability is, it seems to us, that hæmorrhage caused the death ascribed to shock.

Dr. Wenning thinks that fixation of such cysts and drainage is the best treatment, with which we heartily agree. The case published in the *London Obstetrical Transactions* for 1889 by Dr. Rasch bears this out. No doubt Dr. Wenning's case was an uncommonly complicated one, but should a similar rare case come to us, we would advise fixing part of the mesentery to the abdominal wound, and plugging the cavity with gauze, after letting the contents out. Destroying larger parts of the mesentery might lead to gangrene of the bowels, shortening or twisting it to corresponding traction and occlusion of the intestine.

Dr. Wenning adds a few references to other authors, but not in chronological order. Jemenoff's and Rasch's cases were published in 1889, Leon's in 1891, Smith's was in a child of 8, Carson's in a man. So there are at present only four cases in *women of chyle cysts in the mesentery* which mimicked ovarian tumours. The importance of recognising them in operating is evident.

A. A. RASCH.

OVARIOTOMY IN OLD AGE. By JOHN HOMANS, M.D. *Bost. Med. and Surg. Jour.*, vol. cxxviii., No. 21.

The writer has operated upon twelve women over 70 years of age for the removal of the appendages or tumours. Of

these cases nine recovered and three died. In the three fatal cases the age of the patients was not an important factor, the termination would have been the same at any age had the subjects been in the same condition, namely, carcinoma uteri which was not completely removed after a long and bloody operation; ovarian cyst which had been tapped four times and was consequently firmly bound down by adhesions; the third was an ovarian cyst, also adherent from frequent tappings, rendering the operation long and tedious. His oldest case, which was also the oldest case ever published, was 82 years and 4 months old at the time of the operation, is still alive at the age of 87. All but one of the nine recoveries were still alive at the time the paper was written.

L. N.

THE FUNDAMENTAL PRINCIPLES OF ABDOMINAL SURGERY. (Inaugural Discourse before the Royal Academy of Medicine and Surgery of Barcelona.) By Dr. D. FRANCISCO DE SOJO, 1893. *Gaceta Médica Catalana*, No. 5, 1894.

Dr. Sojo's operations were performed at Santa Cruz. In the same hospital, Dr. A. Esquerdo in the preceding year also performed thirty-two laparotomies for various affections, losing only four patients, of which two were cases of pelvic suppuration. In a review of the above address, after paying a high tribute to the great scientific knowledge, clinical judgment and practical experience of the author, Dr. Esquerdo takes the opportunity of expressing his agreement with Dr. Sojo as to antiseptic atmospheres, extra-peritoneal treatment of the pedicle and certain other precautions which he alleges merely serve to add pomp and mystery to these operations. Dr. Sojo treated of all the details of laparotomy, from anæsthesia down to the ligation of the pedicle, he declaimed against the abuse of anæsthesia as prejudicial in abdominal surgery, but, as Dr. Esquerdo says, few people would submit to laparotomy without it, not merely on account of the pain, but because the moral effect and shock might be fatal to a

sensitive patient. Dr. Sojo is a declared partisan of asepsis. His reviewer remarks on the difficulty of securing such perfect asepsis as can justify us in closing the abdomen with perfect confidence, and thinks that drainage can only be condemned when the asepsis is absolute, that the only objection to its employment is some delay in the healing of the abdominal wound, while it averts the dangers of an imperfect asepsis.

Dr. Sojo did not discuss the questions of sutures or post-operative treatment, of avoiding unnecessary eventerations, nor the danger of hernias, or those injuries (pinchings) of intestine which are too often followed by occlusion; like everyone of much experience in these operations, he has seen patients die, without fever or pain or vomiting, but with meteorismus and absolute constipation, and all the phenomena of intestinal paralysis. The greatest caution is required in the after treatment of such cases; if we decline to purge the patient, the paralysis may progress, while the administration of a purgative may increase the development of gases, without causing any vermicular action, and the result in either case will be occlusion.

J. J. MACAN.

DISCUSSION ON LAPAROTOMY: ROYAL ACADEMY OF
MEDICINE AND SURGERY OF BARCELONA, JULY 5,
1894. *Gaz. Méd. Catalana*, p. 471.

Dr. Miguel A. Fargas, after giving a sketch of the course of a case of laparotomy where all goes well, described the morbid consequences, traumatic, toxic, and infective, which unhappily sometimes follow the operation. He discussed the syndromata and genesis of the complications due to infection, inflammation of the wound, peritonitis and septicæmia, and stating that he had for ten years held the opinion that the organism was incapable of infecting itself, compared the attack that surgeons were now making upon the phantasm of infection with that of Don Quixote upon the windmills. Most of the principles of the pan-spermic theory have,

according to Dr. Fargas, proved to be erroneous, and in the face of recent statistics, the microbe has ceased to be the *primum movens* of infection. After speaking of a latent infection from intestinal or other germs, he declared his belief that in spite of the dazzling brilliancy of recent micro-biology we have not learnt anything of much importance. Long before Lister, an eminent Viennese tocologist had laid down the proper methods of avoiding contagion. The existence of infection depended on three factors—the microbe, the field of its existence and the organism infected, and if any discrepancy exists between micro-biological and clinical judgment, one may safely affirm the former to be at fault. In regard to preventive treatment, he spoke of salol and other much-vaunted antiseptics as “flowers of one day,” adding that he could more easily attribute an antiseptic action to citrate of magnesia than to benzon-aftol. Antiseptics, apart from their effects in preventing contagion, are prejudicial; their efficacy is more deceptive than certain; it is absurd to think of opposing germs by antiseptic solutions, &c. He insisted that by placing the organism in good conditions, we indirectly attack the pathogenic germs, the virulence of which is determined by the field of their cultivation as much or more than by anything else, and that the instances of healthy wounds containing microbes show this. Dr. Fargas evidently considered the *modus faciendi* to be the most important thing, and said that if one could open the abdomen, just as one undoes a mosaic, it would do no harm whatever to powder the wound with pure streptococci; but as he afterwards explained that germs when pure—*i.e.*, free from toxines—are innocuous, he proved nothing. In his peroration, while extolling the importance of technique and experience, he nevertheless admitted that on the whole antisepsis is desirable.

Dr. Cardenal replied in the name of the Academy. Some pertinent observations on the inherent difficulties of laparotomy, due to the relations of the abdominal organs, brought him to the consideration of the relative importance of

technique and antiseptics, and he showed that to depreciate the latter and extol the former, to belittle the invention of Lister on the evidence of the statistics of Lawson Tait, was not reasoning in accordance with the facts. No doubt, he said, could exist as to the importance of technique, that is to say, of operating with simplicity, rapidity, and as little blood loss as possible, but none the less is antiseptics of supreme importance. Lawson Tait did not obtain his triumphs until he had acquired a skill so great as compensated for the omission of antiseptics; his earlier series of cases were like those of all beginners. We should compare the results obtained by surgeons of the present day—not among themselves—but with those of the past. The operation of laparotomy was so beset with risks and perils that no one dared to attempt it; and now, as it were by the magician's wand, it is changed into a popular one; and this change, this reversion of opinion, is not due to any betterment in technique—which has made what was difficult, easy, and what was fatal innocuous—but merely to an innovation of Lister's by which contagion is prevented, germs are destroyed, and the wound is placed under favourable conditions for union, and thanks to him, successful laparotomists are springing up everywhere, operations are multiplied, and success has taken the place of failure.

Antiseptics was the origin of the many details which precede an operation, even of the simple act of washing the hands before instead of after an operation, as used to be done; and the scrupulous cleanliness which it is pretended to distinguish from and oppose to, antiseptics, in it alone took rise. The alteration in the earlier methods of procedure in no way militates against the fundamental principles of antiseptics. Forms change, but they persist. The spirit of to-day seems to be a step backwards; the importance of the field on which the cell has to wrestle with the microbe is over-estimated; we know so little about the cell that we ought to continue attacking the microbe; and even if microbes be harmless apart from toxine, we dare not lessen our precautions, for it is impossible to tell whether those which may reach the

wound will carry toxine or not. As to the allegation that in spite of antiseptics the most healthy wounds contain microbes, the experiments of Dr. Fargas and other surgeons have proved its fallacy, and in any case, the passive state of such microbes is far more likely to be due to the antiseptic dressings than to the influence of the field. Dr. Cardenal also said that three-fourths of the fatal cases of laparotomy that he had seen, presented, with the exception of diarrhoea, an appearance similar to Asiatic cholera—a fact supporting the theory of acute systemic intoxication by toxines proceeding principally from the intestinal canal.

J. J. MACAN.

THE USE OF THE ABDOMINAL DRAINAGE TUBE.

Dr. C. B. Penrose, in the *American Lancet*, October, 1894, strongly recommends the bacteriological examination of all the contents of abdominal cysts at the time of the operation, so that should the contents escape into the peritoneal cavity, the operator can at once decide whether it be necessary or not to drain for sepsis. Out of a series of forty-six laparotomies in which this examination was made, in only one was it found necessary to drain on account of septic contents, and in no case peritonitis or sepsis supervened. He supports, therefore, the results published by Schauta, that the tubal contents in the majority of cases of salpingitis are sterile, and concludes by stating that he considers no operating-room complete without facilities for bacteriological examination.

F. W. N. HAULTAIN.

DOUBLE TUBAL GESTATION.

Dr. J. M. Duff, in the *Cincinnati Lancet-Clinic*, Dec. 29, 1894, reports the case of a woman, aged 28, on whom he successfully performed abdominal section for a tubal gestation of ten weeks of the right side before rupture. A small foetus enclosed in its membranes was found. On the left side another tubal sac was found at the tubal end, a small portion

of which was split open. The sac was firmly adherent to the intestines and contained, presumably, remains of placental tissue. Two years previously the patient had the usual symptoms of ruptured tubal gestation, but declining operation had eventually convalesced. Such cases, though extremely rare, should be borne in mind (*vide British Gynecological Journal*, Nov., 1894). This case, however, throws no light on the causation of tubal gestation. As recovery took place after the first illness it is instructive to note the symptoms where "expectant treatment" was followed by recovery. The last menstrual period had terminated sixty days before. There was pain in the left iliac region. Bimanually there was a tumour, evidently in the left Fallopian tube, and there was morning sickness. Shortly after the patient was taken suddenly ill, with severe pain and partial faintness, accompanied by uterine blood discharge. On examination the tumour had entirely disappeared. This is compatible with the pathological appearance of the sac, gestation and rupture having occurred at the fimbriated extremity with probable passage of a mole into the peritoneal cavity. In very few cases, indeed, is "temporising" indicated. When the diagnosis of ectopic pregnancy is probable and the symptoms are severe, experience shows that operative interference is the only rational treatment.

J. A. SHAW-MACKENZIE.

ON TUBAL PREGNANCY AND THE TREATMENT OF HÆMORRHAGES INTO THE ABDOMINAL CAVITY AS A RESULT OF TUBAL PREGNANCY. By Dr. DÜHRSSSEN of Berlin. *Deutsche Med. Wchnschr.*, xx., 2, 3, 1894; *Schmidt's Jahrbücher*, Band 244, No. 10, 1894.

Dührssen gives exhaustive histories of the illness in five patients upon whom laparotomy was performed by him for internal bleeding consequent upon tubal pregnancy. The first case died; the blame of the death was attributed to the injurious action of the chloroform upon the almost ex-

sanguinated constitution, since the disappearance of the pulse came on even before the operation was begun, and immediately after induction of superficial narcosis. In order to avoid such sad results, it would be advisable, Dührssen thinks, to strengthen the system before operation, so that it may offer a normal resistance to the depressing influence of the narcotic and of the operation.

Dührssen has infused the physiological saline solution as recommended by Wyder (*Jahrbücher*, ccxxviii., p. 56), in two cases with good results. He considers this a great advance in the treatment of rupture of a pregnant tube with life-endangering bleeding into the free abdominal cavity. According to Dührssen, a subcutaneous infusion of normal saline solution should be made (immediately after all the preparations for laparotomy have been seen to) in those cases where there is free internal hæmorrhage with threatening signs. If the pulse improves after it, the laparotomy should be done at once. If the subcutaneous infusion has no effect, the intravenous infusion should then be tried, and laparotomy now carried out when the pulse is improved. Should neither method of infusion improve the pulse, the patient, in Dührssen's opinion, is lost, whether we operate or not. In nine extirpations of tubal foetal sacs, Dührssen has only lost one patient, and he is convinced that she would have been saved by infusion performed before the laparotomy.

F. EDGE.

GONORRHŒA IN WOMEN. By Dr. CARRY. *Lyon. Med.*, Jan. 29, 1894; Ref. in *Brit. Med. Jour.*; Feb. 10, 1894; *Epit.*, p. 23.

The author made extensive researches among prostitutes and fallen women of other classes, suffering from vaginal discharge. In only one-third of the number was the gonococcus of Neisser detected. Carry insists that the gonococcus is absolutely specific in gonorrhœa. It is very easy to recognise, being quite different in form from any other microbe. In four out of five cases, its seat was found to be the urethra, in one in

five, the cervix. The periurethral follicles, the vulvo-vaginal (Cowper's) glands, the vagina and anus are exceptional seats of the gonococcus. Gonorrhœal urethritis in women is the almost exclusive source of gonorrhœa in man, and the absence of discharge, pain and local tenderness all tend to hide the source of contagion.

L. N.

NOTE ON GENERAL ACUTE ASEPTIC PERITONITIS. By H. HARTMANN and V. MORAX. *Annal. de Gynéc.*, xli., p. 193, Mars, 1894; *Schmidt's Jahrbücher*, Band 244, No. 10, 1894.

Hartmann and Morax bring forward in the following cases the hitherto wanting bacteriological proof of the existence of general non-infectious inflammation of the peritoneum, which was first described by Schröder and afterwards mentioned by Bumm.

(1) A girl, aged 18, was brought to Terrier's department on the thirteenth day of her illness (April 8, 1893). She had been taken ill suddenly with belly ache, vomiting and distension of the abdomen. On admission the pulse was 120; there was vomiting, and the abdomen was distended and painful all over. No flatus was passed. Temperature normal. The abdomen was opened at once. Two to three hundred grammes of yellowish fluid escaped with fibrin clots. The spleen, which was enlarged, twisted on its pedicle and ante-placed, was separated from the adhering bowels and removed. There was no sort of peritoneal toilet. The patient recovered. The microscopical examination of the fluid and fibrous bands showed absolutely no bacteria, and "culture" made of the fluid remained absolutely sterile.

(2) A woman, aged 49, was admitted for peritonitis. At the operation there was found every sign of general peritonitis with an ovarian cyst with twisted pedicle, adhesions with the inflamed and thickened omentum and gluing together of the reddened loops of bowel by apparently fibrino-purulent exudations. In this case, also, neither the microscopic exam-

ination nor the attempts at culture gave any evidence of the presence of micro-organisms.

The favourable results of operation in certain forms of peritonitis are, according to Hartmann and Morax, due rather to the non-infectious nature of this disease than to the effect of washing out, that is the peritoneal toilet, to which they are often ascribed.

F. EDGE.

CASE OF PELVIC CELLULITIS : BEING A VIRGINAL, PROBABLY TUBERCULOUS ABSCESS IN THE BROAD LIGAMENT, ASSOCIATED WITH BI-CORPOREAL UTERUS. By W. BALLS HEADLEY, M.D., F.R.C.P. Melbourne. *Australian Medical Journal*, vol. xvi., No. 10, 1894.

This case is interesting, and may be read side by side with the paper by Dr. Headley, read before the British Gynæcological Society in November.

M. O'R., aged 17, single, was admitted as an out-patient of the Women's Hospital, under Dr. Balls Headley, in April, 1892, when she said that, about a year before, she was in bed for three months with inflammation of the ovaries. On examination, the opening of the uterus and cervix were normal; the uterus was apparently pushed over to the left by a fluctuating tumour, of the size of a mandarin orange, pressing downwards towards the vagina, situated in the right posterior part of the pelvis.

She was seen in September, 1893; the tumour was larger. In December she was feeling very ill, and abdominal section was advised. In July, 1894, she was admitted, and the operation performed.

On opening the abdomen, in Trendelenburg's position, the body of the uterus was found to be bifid, the cervix being about an inch in length. The two bodies diverged from the inner os at a right angle to each other, were similar, and each was about two and a-half inches long, and an inch in breadth. The tubes were attached at the superior extremities of the cornua, and were angled at their junction, apparently by the

pressure of the intestines; they were somewhat convoluted, and at intervals, slightly enlarged and contracted. About their fimbriæ were delicate floss-silk fibrinous bands, which attached the tubes to adjacent structures, and particularly to the ovaries. The tunics of the ovaries were thickened, and on the external surfaces were exudation bands. The ovaries contained follicular cysts, and the right ovary, a hæmatocele of the size of a small walnut. The summit of the fluctuating tumour could be felt on internal abdominal palpation in the right broad ligament, near the uterus, but very much less distinctly than by the vagina, in which direction it presented. The appendages were removed, and the recovery was uninterrupted and rapidly complete, and the temperature was normal.

A month after operation, the tumour was incised *per vaginam*, and 4ozs. of fœtid pus escaped. The patient made a good recovery. The etiology is discussed, and the author concludes that in this case the broad ligament abscess was probably due to suppuration of a lymphatic gland, most likely with a tubercular taint.

A. E. GILES.

BACTERIOLOGY OF PERI-UTERINE SUPPURATIONS. By HARTMANN AND MORAX. *Rev. de Chir.*, No. 4, p. 343, 1894.

In a paper presented to the Société de Chirurgie, these authors give the result of experiments undertaken in the clinic of Professor Terrier. No micro-organisms were met with in any cases of catarrhal or parenchymatous salpingitis, or hydrosalpingitis; nor in two cases of extra-uterine pregnancy, nor yet in two cases of retro-uterine hæmatocele accompanied with fever; but in regard to suppurations of the broad ligaments and adnexa, the results were very definite; in two cases of the former which they relate they found pure cultivations of streptococci; of thirty-three cases of suppuration of the adnexa in thirteen the pus was sterile, in thirteen

it contained gonococci, in four streptococci, in two pneumococci, and in one the bacterium coli only.

J. J. MACAN.

OPERATION FOR VESICO-VAGINAL FISTULA WHEN ONE EDGE IS CICATRISED AND CLOSELY FIXED TO THE PUBES. By Prof. F. SCHAUTA, Wien. *Monatsschrift f. Geburtshülfe u. Gynækologie*, January, 1895.

Schauta claims to be the first operator who has successfully treated this bad form of fistula. He reports two cases.

He says that success depends upon thorough separation of the edge of the fistula and the neighbouring part of the vagina from the bone. The first step in the operation is to make a vertical cut through the labium majus (on the left side if the fistula be left-sided, and on the right if right-sided) down to the descending ramus. The vagina and fistula are then separated from the inner surface of the bone, care being taken to protect the bladder from injury by means of a spatula and the fingers. The wound is then packed with gauze and the patient is placed in the genupectoral position on Boze-man's table. The edges of the fistula, which are now quite movable, are rawed and closed with sutures. Then the outer wound is closed.

In one case he tried symphysiotomy, in order to get better access to the fistula, but so slightly could the bones be separated, that this proceeding proved of little advantage.

Jobert de Lamballe had previously tried another method of freeing the edges of the fistula, viz., by cutting down to the bone through the vestibule, and loosening the attachments of the urethra. He met with no success, and abandoned the method.

Fritsch also attempted to free the fistula from above by cutting away the attachments of the recti abdominis and other tissues from the upper part of the symphysis. He was not successful, however, and damaged the bladder at each attempt.

J. CLARENCE WEBSTER.

INCONTINENCE OF URINE IN WOMEN, TREATED BY THURE BRANDT'S METHOD. *Revue des Maladies des Femmes*, June, 1892; July, 1894.

Dr. Narick, who brought six cases before the Obstetrical Society of Paris (November, 1891; November, 1893; May, 1894), gives two more successful cases. In one case, aged 40, the trouble persisted after the reposition of an adherent retroverted uterus, and keeping it in position by a Schultze's pessary. The nights, especially, were much disturbed. Three applications cured the patient, and after six months she was still free of her troubles. The other case was in an old woman, aged 70, suffering from valvular disease, whom he found in a pestilential atmosphere, owing to her incontinence. Three massages cured her for a fortnight, when a violent cough from influenza caused a relapse. Three more sittings cured her again, and she was free when *Dr. Narick* saw her a month later.

The method is simple. The greased index finger is pushed up to the level of the vesical sphincter, or a little higher, and moved from right to left five or six times, at the same time pressing against the posterior surface of the pubis. The massage is slightly painful.

It seems to deserve a trial.

A. A. RASCH.

CAVERNOUS ANGIOMA OF THE OVARY.

By *Dr. MARCKWALD*. *Virchow's Archiv.*, vol. cxxxvii., July.

Marckwald, in making a *post-mortem* examination on a girl of 22, who had been affected with general tuberculosis, found in the centre of the right ovary a cavernous angioma. The ovary was as large as a walnut. The left one was normal. The appendages were not tubercular.

He finds only two cases previously described. One observed by *Orth* and *Stamm*, was that of a child in whom both ovaries were affected. The other was a case described by *J. F. Payne*, in which both ovaries were affected, and also the uterus, liver and supra-renal bodies.

J. CLARENCE WEBSTER.

WO ENDIGEN DIE GARTNER'SCHEN GÄNGE? (Where do Gartner's Ducts end?) By Dr. R. KOSSMANN. *Centralbl.*, 1894, No. 19.

UEBER DIE GARTNER'SCHEN (WOLFFSCHEN) GÄNGE BEIM MENSCHEN (Gartner's Ducts in Men). By Dr. W. NAGEL. *Centralbl. f. Gynæcol.*, 1895, 2, 1894, No. 42.

An unnecessarily angry controversy between Dr. Kossmann and Dr. Nagel seems at last at an end.

Kossmann defends and tries to prove the opinion that Gartner's ducts are identical with Wolff's ducts, that, therefore, where they remain they open into the sinus urogenitalis between the urethral orifice and the introitus vaginæ; that, as a rule, they mostly obliterate, but that in some mammals, and abnormally in man, the obliteration of a part may not take place, and that, therefore, we may in the human female find their remnants in the anterior vaginal wall down towards the urethral orifice. Whether Skene's ducts and crypts are such remnants, Kossmann cannot yet maintain.

Nagel seems to prove by his, and other excellent researches, that Wolff's ducts have no part in the growth of the vagina, which proceeds from the lowest points of the united Müller's ducts. He confirms by his dissections the views of Skene, v. Köllicker, Dohrn, Schüller, v. Ackeren and Overdieck, that the para-urethral ducts are efferent ducts of little acinous glands or diverticles of the mucous membrane of the urethra. Such sprouts of the epithelium which subsequently become hollow, have been observed by Ackeren and Schüller in early embryonic life.

A. A. RASCH.

THE AGE OF PUBERTY IN RUSSIA.

By DR. GRUSDEFF. *Centralblatt f. Gynäk.*, No. 23, 1894.

Grusdeff has gathered information regarding 10,000 women from different parts of Russia.

	Years.
The average age in those of Teutonic origin is	15'14.
" " " " " " Polish " "	15'40.
" " " " " " Russian " "	15'75.
" " " " " " Esthonian and Lapp	16'19.
" " " " " " True Finnish " "	16'27.

The average for all Russia is 15'74. Among the richest classes the average age was 14'87. In town middle-class women 15'33. In peasant women 16'15. It is earliest among the southern and latest among the northern peasants.

In 1 case puberty commenced in the 9th year.

" 4 cases " " " " 10th "

" 31 " " " " " 11th "

" 244 " " " " " 12th "

In 3 cases menstruation was delayed until the 24th year.

" 1 case " " " " " 32nd "

J. CLARENCE WEBSTER.

VEGETATIONS OF THE INTERNAL AND EXTERNAL GENITALS IN A PREGNANT WOMAN REMOVED BY OPERATION. By Dr. MARTIN GIL, of Malaga. *Gaceta Médica Catalana*, No. 14, 1894.

A married woman, in the eighth month of pregnancy, consulted me on account of warty growths which I found on examination extended from the os tincae, involved all the folds of the vagina and the carunculæ myrtiformes, were most exuberant on the mons veneris, branching and overlapping each other so that not a hair was left, and thence extended to the perineal raphe, the inguinal folds and the thighs. In view of the obstacle these growths would necessarily form to the dilatation of the collum uteri, vagina and vulva at parturition, I counselled their immediate removal, though not without some fear that the exploration, pain, and unavoidable hæmorrhage attending the extirpation of such abundant growths, might induce premature labour; the fœtus was, however, already viable, and was smaller than it would be

at term, while the vegetations would, if not removed, increase considerably during the remaining period of gestation. The operation was a most laborious one, especially in the vagina; externally I extirpated freely, checking the copious hæmorrhage by touches with acid nitrate of mercury. The patient recovered in twenty days, and at term was safely delivered of a strong and healthy child.

J. J. MACAN.

ON SOME OF THE LESS COMMON DISEASES OF THE VULVA.

Mr. J. W. Taylor (Birmingham), has some suggestive papers under this title in the *Birmingham Medical Review* for October, November, and December.

(1) *Syphilitic elephantiasis of the vulva*.—This is an intractable form of syphilis of the vulva, often spreading to the perinæum and anus. The clitoris and labia minora or majora are transformed into enormous and heavy ball or flap-like folds of tissue. These are not influenced by antisymphilitic remedies, and although at first free from actual ulceration, may mechanically (by chafing or otherwise), become excoriated in patches. There is a more or less constant discharge, and a warty growth may spread all over the perinæum.

The patient complains not only of inconvenience and soreness, but often of pain, which is then very severe. *Mr. Taylor* gives notes of two cases which he had treated by the only available method, viz., amputation. In the first case the clitoris and right labium minus were involved, and the result was quite successful. In the second case (of which an illustration is given), besides hypertrophy of the clitoris and of both labia majora, there was an extensive warty growth, irregular and fissured, extending over the perinæum, and passing round and beyond the anus. The latter was difficult to find, and much of the function of the sphincter had been lost. The warty growth was dealt with by removal with scissors and cautery down to the level of the healthy skin. The patient's condition was greatly improved.

Mr. Taylor distinguishes between tropical elephantiasis of the vulva and the syphilitic condition, and points out that the latter may, nevertheless, not yield to antisymphilitic remedies.

This form has not been clearly recognised by English writers, but has been described in all its essential features in German text-books. Schröder seems to have been the first to recognise the necessity for operative treatment. Dührssen writes: "The cases which I have seen occurred exclusively in persons affected with tertiary, syphilis; antisyphilitic treatment is of no use, the treatment consists in excision."

When the clitoris and labia minora are alone affected, the operation is easy, and the result is usually very good. When the labia majora and nates are also affected, the treatment is more difficult. Taylor recommends the excision of a long wedge-shaped piece of tissue from each labium, together with the removal of the hypertrophied outgrowths down to the level of the true skin. This is attended with great relief to the patient, but in the worst cases can hardly be regarded as curative.

ARTHUR E. GILES.

OBSTETRICAL.

CONCEPTION THROUGH AN ACCESSORY FIMBRIATED FALLOPIAN TUBE END. CÆSAREAN SECTION NECESSITATED BY AN OLD ECTOPIC PREGNANCY. By Prof SÄNGER, Leipsig. *Monatsschr. f. Geb. u. Gyn.*, Bd. i., Hft. 1.

Frau K., aged 32, was brought to Säger's Hospital on September 14, 1893. She was in poor health and was thin and worn-looking.

Her sexual history was as follows: Menstruation was of twenty-eight day type, duration eight days. She had had three normal labours, the last of which had occurred eight years previously. Puerperia normal. Between her labours she had aborted twice. Two years before admission she believed that another abortion had taken place. She was eight months in bed, blood escaped, but no ovum was seen.

Her last menstruation was in January. She had since suffered from attacks of pain in the right side. On examination the uterus was found to be in an advanced condition of pregnancy. In the right side of the pelvis was an immovable

hard mass, not tender, surrounded with numerous adhesions. Some of these embraced the cervix and lower uterine segment and rectum. The mass occupied a considerable portion of the pelvis. It was diagnosed as an old ectopic pregnancy, an hæmatoma, or hæmatocele, accompanied with peritonitis.

On October 3 labour pains set in. It was seen that delivery through the vagina was impossible, owing to the pelvic mass, and Cæsarian section was performed.

At the operation the right Fallopian tube was found lying with its outer end turned downwards into the pouch of Douglas. It was uniformly thickened to the size of the little finger. It appeared to pass into a hard, round mass, the size of a fist, which lay embedded in adhesions in the pouch of Douglas. The ovary could not be found. The mass was shelled out, bleeding points being secured by sutures.

The left tube was covered with old adhesions at its outer end. Attached to it, about 7 cm. from the uterus, was an accessory fimbriated tube-end. Below it lay the ovary.

The mother and child did well.

No fœtus could be found in the old mass. The ectopic gestation had probably developed in the outer end of the tube, which had fallen into the pouch of Douglas and had become adherent, the gestation ceasing to develop.

The most interesting point in the case is, that owing to the occlusion by adhesions of the normal ends of the tubes, the ovum, which grew *in utero*, must have passed into the left tube through the accessory fimbriated extremity.

J. CLARENCE WEBSTER.

ON MECHANICAL AND OPERATIVE DILATATION OF THE CERVIX IN SEVERE ECLAMPSIA. By Dr. RICHARD BRAUN V. FERNWALD. *Wien klin. Wchnschr.*; vii., 20. 1894; *Schmidt's Jahrbücher*, Band 244, No. 10, 1894.

Braun gives the history of labour in a primipara and a tertipara in which immediate termination of labour on account of eclampsia was carried out with good results by the Mäurer-Dührssen method. The cervix in both cases was dilated by Hegar's dilators, passing a colpeurynter, and by deep cervical

incisions reaching to the vagina, and then delivery was effected by turning and extraction. The incision wounds were in no case stitched. Braun, however, considers this desirable, and will do it in future cases. According to Braun the method of combined mechanical and operative dilatation of the cervix is easily carried out, not dangerous, and attains its object. In severe cases of eclampsia during labour he prefers this method to Cæsarean section. In spite of all the brilliant statistics of Cæsarean section, the Mäurer-Dührssen method remains much less dangerous; it has the further advantage that one can operate at once and does not require to wait until the preparations are made for Cæsarean section.

F. EDGE.

PÆDIATRICAL.

ULCERATED ERYTHEMA NEONATORUM.

By Dr. GALLAIS. *Jour. de Méd. and Chir. Pract.*, 1894.

About 23 per cent. of the children admitted into the Hospice des Enfants Assistés are affected with erythema, one form of which, very common in those suffering from diarrhœa, though only a variety of the ordinary disease, might easily give rise to a mistaken diagnosis. The primitive vesicular type of the disease is modified by the confluence of the numerous vesicles into ulcers with bright red surface and sharply cut but not undermined edges; these ulcers are sometimes serpiginous in character; they discharge a liquid that causes a grey or reddish-yellow stain, and the intervening skin is of a uniform redness. The largest and broadest lie on the inner side of the buttocks in the locus of greatest friction, and sometimes surround the anal orifice; but smaller ulcers of the same kind are found external to these. The parts affected are, therefore, the same as in the ordinary vesicular eruptions, but this particular form of ulceration may affect very distant parts. Most commonly we find in children with ulcerated erythema, a distant and in some cases deep localization in ulceration on the ankles. These ulcers on the ankles are probably due to the same causes as those on the buttocks, and like the latter are very common. Dr. Gallais has occasionally found them co-existing with serpiginous ulcers of the

margins of the anus. Friction is, no doubt, often the cause of their seat, and though sometimes several millimetres deep and a centimetre in diameter, they may be no more than mechanical excoriations. No author considers them in any way due to syphilis.

They may affect parts still more distant, and at the base or edges of the nails constitute a perionixis ulcerosa. Any solution in the continuity of tissue round a nail is quickly followed by inflammation, and may so give rise to the different forms of onixis or perionixis. These unguis ulcerations may, according to Parrot, co-exist with, but are not to be considered hereditary syphilis. Onixis resembles ulceration of the ankles in having no specific character, and is merely simple ulceration with some inflammation; it may cause the atrophy of one or several nails, which may fall off and be replaced by others more than once. Perionixis may cause the same phenomena of unguis atrophy, but it is frequently observed in several fingers at the same time.

J. J. MACAN.

ERYTHEMA IN CHILDHOOD. *Recueil de Leçons cliniques sur les Maladies de l'enfance*. Moussous, Paris, 1893. *Cblt. für Gyn.*, 1894, p. 140.

Erythema neonatorum, that intense reddening of the skin so common immediately after birth, is a simple hyperæmia, but there are several forms of erythema intertrigo which affect young children. The ordinary intertrigo, due to absolute uncleanliness or to too frequent acid or decomposed evacuations, and nearly always limited to the parts about the anus, the genitals, and inner surfaces of the thighs, is easily cured by frequent ablutions and the use of dry powder. A pernicious form, erythema vesiculosum, only seen in badly nourished children, is very intractable, and like its cause, persistent. It is often seriously complicated by ulceration of the heels, occiput, &c., and its diagnosis from dermatitis exfoliativa (Ritter) is sometimes difficult. The author also describes a series of forms not commonly met with, papulous, squamous or ulcerous in nature, and lying on the margins of erythema and eczema.

J. J. MACAN.

NOTES AND NEWS.

BRITISH GYNÆCOLOGICAL SOCIETY.—The inaugural address of Dr. Clement Godson came off with much *éclat* on February 14. It must have been gratifying to the President that no less than thirty-two new candidates were proposed for the Fellowship on his inauguration to office. We cannot expect such a large addition on every occasion, but if the good work done at the meetings were more widely known in the profession there is no reason why the Society should not soon become one of the largest in Europe.

LONDON OBSTETRICAL SOCIETY.—A blow for independence was struck by the Fellows when they assembled to elect office-bearers for 1895. The Council, by a majority of two, had recommended one gentleman for a prominent and responsible position in place of another whose claims to the office were manifestly stronger. The result of the vote by ballot was that the nominee of the Council received forty-one votes, and the independent candidate, who polled eighty-seven votes, was elected.

Nor was the election of President a merely formal function, as has been usually the case. The nominee of the Council was supported by seventy-six votes; one other candidate received forty-two; a third, seven; and a fourth, two. So that of 127 votes, seventy-six supported and fifty-one opposed the nomination as made by the Council. It is evident from the figures of the first paragraph that if the Fellows had so willed, the high office of President might have been filled by another gentleman chosen by the Fellows independently. It is, however, understood that the votes cast adverse to the Council's nominee were given more as a protest against the arbitrary way the Council has decided these matters in the past, than as a real effort to dispute the Presidency on this occasion. *Verbum satis sapienti.*

BRITISH MEDICAL ASSOCIATION.—The sixty-third annual meeting takes place in London on July 30 and 31, August 1 and 2, 1895.

Section C.—OBSTETRIC MEDICINE AND GYNÆCOLOGY is officered by Sir William Priestley as President, Professors A. R. Simpson (Edinburgh), W. J. Sinclair (Manchester), Drs. J. Watt Black, Handfield Jones, Mr. Knowsley Thornton, and Sir Francis Laking, of London, as Vice-Presidents; Drs. W. S. A. Griffith (London), A. H. F. Barbour (Edinburgh), and W. R. Dakin (London), act as Honorary Secretaries. The special discussions announced are: July 31, "The Aseptic and Antiseptic Precautions to be observed in Private Midwifery Practice," introduced by Dr. Herman; August 2, "The Early Diagnosis of Malignant Disease of the Uterus, and the Treatment by Partial or Total Excision," introduced by J. Knowsley Thornton, M.B.

It is anticipated that the meeting will be a very large and representative one. Many arrangements are being made to make the Congress worthy of its place of meeting. Among other entertainments we understand the British Gynæcological Society has arranged to celebrate the dinner of the Society during the meeting of the Association, and hopes to entertain all the most prominent foreign gynæcologists then visiting London, in the Whitehall Rooms, on July 31. We trust the Fellows of the Society will attend in large numbers, so as to make the function a great success. The Society is indebted to the British Medical Association for having, as the Society long ago suggested, altered the title of Section "C" by adding the word "Gynæcology" to the words "Obstetric Medicine." The compliment was the more marked as the change was made in 1893, when the then Senior Secretary of the Gynæcological Society acted as Senior Secretary in Section "C" at the Newcastle meeting.

GROSVENOR HOSPITAL FOR WOMEN, VINCENT SQUARE, S.W.—We are glad to note that this useful institution has recently received the munificent gift of £7,000 towards its building fund. The lady who has so generously helped this most deserving charity had previously given the handsome contribution of £1,000 to the funds of the hospital.

ROYAL MATERNITY CHARITY.—In our issue for August, 1894, we gave the statistics of this ancient charity for 1893.

The Medical Report for 1894, signed by Drs. Fancourt Barnes and Leith Napier, physicians, and Messrs. Houchin and Oliver, district surgeons, gives the following figures:—Total deliveries, 4,390; children born, 4,478. Of these, 2,425 were boys, and 2,052 girls, and 1 hermaphrodite; there were 88 cases of twins. The

maternal deaths numbered 8. The assigned causes of death were puerperal septicæmia, 3; cardiac disease, 1; eclampsia, 1; post-partum hæmorrhage, 1; peritonitis, 1; starvation, 1. The report states: "We wish to take this opportunity of pointing out to the Board of Directors that the number of deliveries in the Charity last year was four thousand three hundred and ninety. This is the largest number of women delivered by the Charity in any single year for the last seventy years, when four thousand five hundred and fifty-five women received the benefits of the Charity in the year 1825."

As an interesting episode in the work of the midwives for the year we may quote from the speech of Mr. Cornelius Barham, C.C., Chairman, in which he related the following incident:—"The Charity had a case on Saturday last in which a poor mother was delivered on a barge in the Paddington Canal, and the midwife, in reporting on the case, said, 'Both mother and child are doing well.' It was a remarkable coincidence that the very same midwife who attended the barge woman attended the present Empress of Germany when the heir-apparent to the German throne was born, and since."

The midwife referred to is Mrs. MacDonald, Head Midwife to the Charity and Midwife Nurse to her Imperial Majesty the German Empress.

NEW JOURNALS AND NEW SERIES OF OLD JOURNALS.—Among the new publications for the year we have the *Monatsschrift für Geburtshilfe und Gynäkologie*, which we have fully referred to elsewhere; *Clinical Sketches*, edited by Mr. Noble Smith; and a new issue of the *Practitioner*, now edited by Mr. Malcolm Morris. *Clinical Sketches* is a very nicely-arranged, well printed, and well illustrated paper, and is published at a very popular price. We wish it every success. Our old friend the *Practitioner* has moved with the times, and is "asking less and giving more"—that is, the price has been reduced to a shilling, and the letterpress considerably added to. It is considerably altered, has been made more suitable to a wider circle of readers, and in the editorial chats given an interesting French journalistic custom has been adopted. We recognise these changes as popular improvements, and hope the Journal will maintain and enlarge its well-merited place in public esteem.

BOOKS RECEIVED.

Books received for Review, which are here acknowledged with thanks:—Obstetric Surgery, by Drs. E. H. Grandin and George W. Jarman; Ovarian Neuralgia and its Treatment, by A. Rabagliati F.R.C.S.E.; The Year Book of Treatment for 1895; The Medical Annual for 1895; Braithwaite's Retrospect of Medicine, vol. cx., July to December, 1894; Helps to Sickness and Health, by H. C. Burdett; The Annual of the Universal Medical Sciences, 1894, 5 vols.; The Evolution of the Diseases of Women, by Dr. Balls Headley; The Aseptic Treatment of Wounds, Schimmelbusch; De l'Asepsie et de l'Antisepsie en Obstetrique, by Prof. Tarnier; Diseases of the Ear, by Marmaduke Sheild, F.R.C.S.; Transactions of the American Gynæcological Society for 1894, vol. xix.; "Teratologia," edited by Dr. Ballantyne; Intestinal Approximation by Dr. J. S. Murphy; Life of William Smellie, by Dr. Glaister; Formulaire du Massage, by Dr. Norström, &c.

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- 1887 †BOWIE, Alex., M.D., C.M., 26, Harley Street, w.
- 1894 BOYD, A. B., M.A., M.B., B.Ch.Oxon, 5, The Lawn, St. Leonards-on-Sea.
- 1887 BOYD, J. ST. CLAIR, M.D.R.U.I., M.Ch., B.A.O., 27, Victoria Place, Belfast.
- L. 1885 BOYD, JAMES P., M.D., *Professor of Obstetrics and Gynecology Albany Medical College*, 152, Washington Avenue, Albany, New York, U.S.A.
- 1891 BRADLEY, M. MCW., M.D., Jarrow-on-Tyne.
- 1891 BRAMWELL, HERBERT, M.D., Allendale Place, Tynemouth, Northumberland.
- 1886 †BRAMWELL, JOHN MILNE, M.B., C.M., 2, Henrietta Street, Cavendish Square, w.

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- 1891 BREWIS, N. T., M.B., C.M.Edin., F.R.C.P.Ed., 23, Rutland Street, Edinburgh.
- 1893 †BRIDGER, ADOLPHUS E., M.D., F.R.C.P.E., *Physician St. Pancras and Northern Dispensary*, 18, Portland Place, w.
- F.F. †BROWN, C. H. GAGE, M.D., C.M.Edin., 74, Cadogan Place, s.w.
- 1892 BROWN, HENRY M., M.D., Hillsboro', Ohio.
- L. 1889 BROWNLEE, MILNE, M.D., Woodstock, Ontario, Canada.
- L. 1885 BUDIN, PIERRE, M.D., *Professeur agrégé à la Faculté de Médecine de Paris, Accoucheur de la Charité*, 4, Avenue Hoche, Paris.
- 1887 †BURFORD, GEORGE HENRY, M.B., C.M.Aber., 20, Queen Anne Street, w.
- F.F. †BURTON, J. E., M.A. (Hon.) Beloit, M.R.C.S., *Surgeon to the Liverpool Hospital for Women*, 64, Rodney Street, Liverpool.
Hon Loc. Sec. C. 1884-6.
- 1887 BURY, EDWARD CHARLES, M.D. St.And., M.R.C.S., L.S.A., 5, York Row, Wisbech, Cambs.
- L. F.F. †BUXTON, DUDLEY WILMOT, M.D., B.S., M.R.C.P.Lond., *Anæsthetist to University College Hospital*, 82, Mortimer Street, Cavendish Square, w.
C. 1895.
- 1885 BYERS, JOHN WILLIAM, M.A., M.D., M.Ch. (Q.U.I.), M.R.C.S.E., L.M.K. and Q.C.P.I., *Professor of Midwifery and Diseases of Women and Children Queen's College, Belfast, and Physician for Diseases of Women to the Royal Hospital, Belfast*, Lower Crescent, Belfast.
C. 1893-5.
- 1894 BYFORD, HENRY T., M.D., 3001, Calumet Avenue, Chicago, Ills.
- 1887 CALDWELL, W. SPENCER, M.D., Freeport, Ills., U.S.A.
- 1889 CALLAGHAN, JAMES LESLIE, L.R.C.P.Edin. and L.R.C.S.I., Brookfield, Colyton, Devon.
- F.F. †CAMBRIDGE, THOMAS ARTHUR, M.R.C.S.Eng., L.S.A., Stanley Lodge, Waltersville Road, Upper Hornsey Rise, N.
C. 1887-9. V.P. 1890-2.
- 1887 CAMERON, J. C., M.D., *Professor of Midwifery McGill University*, 941, Dorchester Street, Montreal.
- 1895 CAMERON, MURDOCH, M.D., *Regius Professor of Midwifery in the University of Glasgow*, 7, Newton Terrace, Glasgow.
- 1894 CAMPBELL, JOHN, M.A., M.D., M.Ch., M.A.O.R.U.I., F.R.C.S.Eng., *Senior Physician Samaritan Hospital for Women, Belfast*, 21, Great Victoria Street, Belfast.
- F.F. †CAMPBELL, WILLIAM FREDERICK, L.R.C.P.Edin., L.F.P.S.G., L.S.A.Lond., 88, Junction Road, Upper Holloway, N.
- 1892 CANNADAY, C. G., M.D., Roanake, Virginia, U.S.A.
- 1885 †CARFRAE, GEORGE M., M.D., 4, Hertford Street, Mayfair, w.
- 1895 †CARPENTER, GEORGE, M.D.Lond., M.R.C.P., *Senior Physician to Out-patients, Evelina Hospital*, 12, Welbeck Street, w.
- L. 1886 CARSTENS, J. HENRY, M.D., Detroit, Michigan, U.S.A.
- 1891 †CARTER, A. J., M.R.C.S., 75, Shepherd's Bush Road, w.

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- F.F. †CARTER, GEORGE ROE, M.R.C.P.I., L.R.C.S.I., Oakhurst, 2, Anerley Park, S.E.
- F.F. †CARVELL, JOHN MACLEAN, L.S.A., Eric House, 208, Bow Common Lane, E.
- F.F. †CASE, WILLIAM, M.R.C.S., L.S.A., 34, Westbourne Road, Arundel Square, N.
- 1889 †CATTELL, G. TREW, M.D.Brux., L.R.C.P.Lond., M.R.C.S.Eng. and L.S.A., 30, Hereford Square, South Kensington, S.W.
- 1895 †CAYLEY, C. H., M.A., M.B.Cantab., 17, Roslyn Hill, Hampstead, N.W.
- 1895 †CHAMBERS, EBEN., M.D.Aber., M.R.C.S., 1, Wilmington Square, W.C.
- L. 1885 CHAMBERS, P. FLEWELLEN, M.D., 26, West Forty-seventh Street, New York, U.S.A.
- 1892 CHENEY, BENJAMIN AUSTIN, M.D., 40, Elm Street, New Haven, Connecticut, U.S.A.
- L. F.F. CHILD, EDWIN, M.R.C.S.E., Vernham, New Malden, Surrey.
- F.F. CLARK, JAMES FENN, M.R.C.S., L.S.A., Clent House, Beauchamp Square, Leamington.
- 1895 †CLARK, T., L.R.C.P., L.R.C.S.Edin., 1, Westbourne Street, Eaton Square, S.W.
- F.F. †CLARKE, FINCASTLE GEORGE BARLOW, M.D., C.M.McGill, L.R.C.P. Lond., 128, Battersea Park Road, S.W.
- L. 1887 †CLARKE, THOMAS KILNER, F.R.C.S.Eng., M.D., M.A.Cantab., *Surgeon Huddersfield Infirmary*, 66, John William Street, Huddersfield. C. 1895.
- 1886 CLEGHORN, GEORGE, M.D.Dur., Blenheim, Marlborough, New Zealand. C. 1893-5.
- L. F.F. CLENDINNEN, FREDERICK JOHN, L.R.C.P.Lond., L.R.C.P. & S. Edin., Melbourne, Australia. Hon. Loc. Sec.
- 1889 CLOSS, JOSEPH OSBORNE, M.D.Ed., George Street, Dunedin, New Zealand.
- F.F. †COFFIN, R. MAITLAND, F.R.C.P.Edin., 98, Earl's Court Road, S.W.
- F.F. COGHILL, JOHN GEORGE SINCLAIR, M.D., F.R.C.P.Edin., *Physician Royal National Hospital for Consumption, Ventnor*, St. Catherine House, Ventnor, Isle of Wight. C. 1884-6. V.P. 1888-90.
- L. F.F. COLE, RICHARD BEVERLEY, M.D., A.M., M.R.C.S.Eng., Ph.D., San Francisco, California, U.S.A.
- F.F. †COLEMAN, CHARLES ALFRED, M.D.Edin., Hill View, Streatham Common, S.W.
- 1893 †COLENZO, ROBERT J., M.A., M.B.Ox., M.R.C.S., 91, Cromwell Road, S.W.
- 1890 †COLLINS, E. TENISON, M.R.C.S., L.S.A., 12, Windsor Place, Cardiff. Hon. Loc. Sec.
- 1885 CONDON, JAMES HUNT, M.D. St. Andrews, M.R.C.S., L.S.A., L.M.Dublin, *Brigade Surgeon Indian Army Medical Department*, Cawnpore, India.
- L. 1887 *COOK, S. L., M.D.
- 1892 †COOPER, JAMES, M.R.C.S., L.R.C.P.Lond., 1, Lancaster Terrace, Regent's Park, N.W.
- L. F.F. CORDES, AUGUSTE E., M.D.Paris, M.R.C.P.Lond., *Privat-Dozent of Midwifery, ex chirurgien adjoint à la Maternité*, 12, Rue Bellot, Geneva.

Elected.

- F.F. †CRAIGIE, JOHN HAMILTON, F.R.C.S.Edin., *Surgeon-Dentist to the Chelsea Hospital for Women*, 13, Saville Row, W.
- F.F. CRANNY, JOHN JOSEPH, M.D.Dub., A.B., F.R.C.S.I., *Surgeon to the Jervis Street Hospital, late Examiner in Midwifery Royal College of Surgeons, Ireland*, 17, Merriion Square North, Dublin.
- F.F. CREASE, J. ROBERTSON, F.R.C.S.Edin., 2, Ogle Terrace, South Shields.
- 1886 CRESWELL, PEARSON ROBERT, F.R.C.S.Ed., *Surgeon Merthyr General Hospital, &c.*, Dowlais, Merthyr Tydvil.
- 1888 †CRICHTON, GEORGE, A.M. St. And., M.D.Edin., L.R.C.S.Edin., 1 The Barons, Twickenham, Middlesex.
- F.F. †CRIPPS, C. COUPER, M.D., M.R.C.S., 187, Camberwell Grove, Denmark Hill, S.E.
- 1888 †CRISP, ERNEST HENRY, B.A.Camb., L.R.C.P., M.R.C.S., The Lawns, Balham Hill, Clapham Common, S.W.
- 1891 CROMIE, JOHN, L.R.C.P. & S.Edin., 49, Stanley Street, Blyth, Northumberland.
- F.F. CROOM, JOHN HALLIDAY, M.D., F.R.C.P.E., F.R.C.S.E., F.R.S.E., *Physician to, and Clinical Lecturer on Diseases of Women Royal Infirmary, and Physician to the Royal Maternity Hospital, Edinburgh*, 25, Charlotte Square, Edinburgh. C. 1884-6. V.P. 1887-9.
- L. 1887 CROUZAT, E., M.D., *Professeur de Clinique d'Accouchements à la Faculté de Médecine de Toulouse*, Toulouse, France.
- 1895 CAFFERATA, ADOLPHUS M., M.D.Belgium, 5, Avenue Mantead, Spa, Belgium.
- 1891 CURRY, MATTHEW ALLISON, M.D., Halifax, Nova Scotia.
- 1886 CUSHING, CLINTON, M.D., 636, Sutter Street, San Francisco, U.S.A.
- 1888 CUTHBERT, WILLIAM WOOD, M.R.C.S.Eng., L.S.A.Lond., Mendlesham, Stonham, Suffolk.
- 1895 †DAUBER, JOHN H., M.A., M.B., B.Ch.Oxon, *Medical Registrar Hospital for Women, Soho*, 29, Charles Street, Mayfair, W.
- F.F. †DAVIES, ELLIS THOMAS, M.D., *Senior Assistant Surgeon Hospital Women*, 97, Shaw Street, Liverpool.
- 1892 DAVIES, W. J. F., M.D., Johannesburg, South Africa.
- 1892 DAVIS, W. E. B., M.D., 1806, Third Avenue, Birmingham, Alabama, U.S.A.
- 1895 †DE JERSEY, W. B., B.A., M.B., B.C.Cantab., 94, Finchley Road, South Hampstead, N.W.
- 1885 DEMPSEY, ALEXANDER, M.D.Q.U.I., L.R.C.S.I., *Physician Mater Infirmary Hospital*, 26, Clifton Street, Belfast.
- L. 1887 DEWES, FREDERICK JOSEPH, L.R.C.P.Lond., M.R.C.S.E., *Surgeon Captain Madras Army*, care of Messrs. Binney & Co., Madras, India.
- 1888 DICKEY, SAMUEL, M.D., *Physician to Belfast Lying-in Hospital*, 9, Clifton Street, Belfast.
- 1886 †DICKSON, CHARLES COCHRANE, L.R.C.P. & S.Ed., Bowmont House, Willesden Lane, N.W.

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- L. F.F. †DINGLE, WILLIAM ALFRED, M.D. St. And., L.R.C.P.Lond.,
M.R.C.S.Eng., L.S.A., *Surgeon Royal Maternity Charity*, 46,
Finsbury Square, E.C. C. 1889-91. V.P. 1892-3.
- 1887 †DINGLEY, WILLIAM, M.R.C.S., L.S.A., 277, Camden Road, N.
C. 1895.
- F.F. †DIXON, JOHN, M.B., C.M.Edin., Portland House, 39, Gloucester
Road, Finsbury Park, N.
- F.F. †DIXON, WILLIAM EDWARD, L.R.C.P.Ed., F.R.C.S.Ed., M.R.C.S.,
"Bridge Cot," Oulton Broad, Lowestoft.
- 1891 DODD, T. A., M.R.C.S., L.R.C.P.Ed., *Visiting Surgeon, Newcastle-on-*
Tyne Workhouse Hospital, 4, Eldon Square, Newcastle-on-Tyne.
- F.F. †DOLAN, THOMAS M., M.D., F.R.C.S.Edin., Horton House, Halifax,
Yorkshire. C. 1886-8 & 1892-4. V.P. 1889-91.
- 1895 †DONALD, ARCHIBALD, M.A., M.D.Edin., M.R.C.P.Lond., *Obstetric*
Physician Royal Infirmary, Manchester, 274, Oxford Road,
Manchester.
- L. 1889 DOUGLAS, RICHARD, M.D., Nashville, Tennessee, U.S.A.
- 1895 †DOVE, R. W., L.R.C.P., M.R.C.S., Carshalton, Stapleton Hall Road, N.
- F.F. †DRAKE-BROCKMAN, EDWARD FORSTER, F.R.C.S.Eng., L.R.C.P.
Lond., 14, Welbeck Street, W.
- F.F. DRAPER, JAMES WILLIAM, L.R.C.P.Lond., M.R.C.S.Eng., L.S.A.,
Almondbury, near Huddersfield.
- 1891 DRUMMOND, JAMES, M.D., 5, Albion Terrace, South Shields.
- L. 1885 DUDLEY, EMILIUS CLARKE, A.B., M.D., *Professor of Gynecology*
Chicago Medical College, 1619, Indiana Avenue, Chicago, U.S.A.
- 1889 DUKE, EDGAR, M.R.C.S.Eng., and L.S.A., 40, Pevensey Road, St.
Leonards-on-Sea.
- F.F. DUNDAS, MORDAUNT GEORGE, M.R.C.S., L.S.A., Litcham, Norfolk.
- 1891 EASTES, THOMAS, M.D., F.R.C.S., 18, Manor Road, Folkestone.
- 1890 ECCLES, F. R., M.D., *Professor of Gynecology at the Western Uni-*
versity, Ellwood Place, London, Ontario, Canada.
- 1892 ECHLIN, EDMUND B., B.A., M.D., C.M., Hamilton, Ontario, Canada.
- 1894 †EDGE, FREDERICK, M.D., B.S., B.Sc.Lond., M.R.C.P.Lond.,
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- 1894 †EDWARDS, ROBERT, M.R.C.S., L.R.C.P.Lond., Stanley Villa, Alex-
andra Avenue, Battersea Park, S.W.
- F.F. †ELDER, GEORGE, M.D., *Surgeon Samaritan Hospital for Women*,
Nottingham, 17, Regent Street, Nottingham. C. 1890-2.
- 1895 †ELIOT, E. F., L.R.C.P.&S.Ed., *Surgeon Women's Hospital, Southampton*,
13, East Park Terrace, Southampton.
- 1894 EMMET, BACHE MCE., M.D., 18, East Thirtieth Street, New York.
- 1892 ENGELMANN, FREDK., M.D., Kreuznach, Germany.
- L. 1885 ENGELMANN, GEORGE J., M.D., 3003, Locust Street, St. Louis, U.S.A.
- L. 1892 ENGSTRÖM, OTTO, M.D., Helsingfors, Finland.

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- F.F. †ENSOR, EDWIN THOMAS, M.D.Univ.N.Y., L.R.C.P.I., &c., 23, Chesterton Road, North Kensington, w.
- 1885 EVANS, EBENEZER RICHARD, L.R.C.P., L.R.C.S.Edin., Llandysil, Cardiganshire, South Wales.
- 1891 FARQUHARSON, JAMES DUNCAN, M.B., C.M.Glas., 242, Westgate Road, Newcastle-on-Tyne.
- 1892 †FAUSSET, ANDREW, B.A., M.B., B.Ch.Dub., *Anæsthetist Hospitals for Diseases of Heart and Gordon Hospital for Fistula*, 66, Belgrave Road, s.w.
- 1885 †FEARNLEY, WILLIAM, L.R.C.P.Lond., M.R.C.S.Eng., 81, Elgin Avenue, Maida Vale, w.
- 1891 FEHLING, PROFESSOR, M.D., Bâle, Suisse.
- L. 1886 FENGER, CHRISTIAN, M.D., 269, La Salle Avenue, Chicago, Illinois, U.S.A.
- 1894 †FENTON, FREDERICK ENOS, F.R.C.S.E., M.R.C.P.Edin., Langstone, Uxbridge Road, Ealing, w.
- F.F. †FENTON, W. HUGH, M.A.Oxon., M.D.Bru.x., *Physician Chelsea Hospital for Women*, 27, George Street, Hanover Square, w.
Hon. Sec. 1890-1. V.P. 1892-4.
- 1893 †FERGUSON, GEO. GUNNIS, M.B., C.M.Glas., 62, Holmdale Road, West Hampstead.
- 1891 FIELDEN, SAMUEL, M.D., Enfield Lodge, Shildon, Co. Durham.
- 1893 FINDAY, WILLIAM, A.M., M.B., C.M.Aber., 475, Union Street, Aberdeen, N.B.
- L. F.F. FITZGERALD, CHARLES EGERTON, M.D., West Terrace, Folkestone, C. 1888-9.
- 1895 FITZGERALD, W. A., M.D., B.A. Dublin, Villa Picciola, Monte Carlo.
- 1895 FLINT, A., M.D.Bru.x., L.R.C.P., J.P., Westgate-on-Sea, Kent.
- 1892 †FLYNN, E. J. MOFFAT, F.R.C.S.Edin., 12, Bentinck Street, w.
- F.F. †FORDHAM, JOHN W., M.R.C.S.Eng., L.R.C.P.Edin., 78, Mile End Road, E.
- 1885 FRASER, GRÆME BISDEE, M.R.C.S., L.S.A., Belvidere, Weston-super-Mare.
- 1885 FULLER, LEEDHAM, M.R.C.S.Eng., L.S.A.Lond., Streatham Hill, s.w.
- 1889 †GALLOWAY, A. RUDOLPH, M.A., M.B., C.M.Aberd., 207, Union Street, Aberdeen.
Hon. Loc. Sec.
- 1895 †GALLOWAY, A. W., L.R.C.P., M.R.C.S., 79, New North Road, N.
- F.F. †GARDINER, BRUCE HUBERT JOHN, M.D., L.R.C.P.Edin., M.R.C.S., Gloucester House, Barry Road, East Dulwich, s.e.
- 1894 †GARDNER, HAROLD BELLAMY, M.R.C.S.Eng., L.R.C.P.Lond., *Chelsea Hospital for Women*.
- F.F. GARDNER, WILLIAM, M.D., *Professor of Gynæcology in McGill's University*, 109, Union Avenue, Montreal, Canada. V.P. 1887-9.
- 1891 GARDNER, WILLIAM, M.D., 5, Collins Street, Melbourne, Australia.
- 1895 †GERVIS, A. F., L.R.C.P., M.R.C.S., 1, Queen's Crescent, Haverstock Hill, N.W.

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- 1891 GIBB, C. J., M.D., *Consulting Surgeon Newcastle-on-Tyne Infirmary*, Westgate Street, Newcastle-on-Tyne.
- 1895 GIFFARD, H. E., M.R.C.S., Denham House, Egham, Surrey.
- 1893 †GILES, ARTHUR, M.D., B.Sc.Lond., M.R.C.P., *Physician to Out-Patients, Chelsea Hospital for Women*, 57, Queen Anne Street, w.
- L. 1885 GILES, PETER, M.R.C.S., L.R.C.P., The Quinta, Brobury, Hereford.
- F.F. †GIMSON, THOMAS STEVENS, M.R.C.S., 32, Fitzroy Square, w.
- 1892 GLEDDEN, ALFRED MAITLAND, M.D.Brux., F.R.C.S.Edin., care of L. Bruck, 13, Castlereagh Street, Sydney.
- 1895 †GLOVER, L. G., M.A., M.B., B.C.Cantab., Merton Lodge, Highgate, N.
- 1895 †GODFREY, F., L.R.C.P. & S.Edin., Glendower House, Compton Terrace, Highbury, N.
- 1891 †GODSON, CLEMENT, M.D., M.R.C.P., *Consulting Physician to the City of London Lying-in Hospital, late Assistant Physician Acch. St. Bartholomew's Hospital*, 9, Grosvenor Street, w.
C. 1892-4. Pres. 1895.
- 1891 GOGGANS, J. A., M.D.N.Y., Alexander City, Alabama, U.S.A.
- F.F. GOLDSMITH, GEORGE POCKOCK, M.D., 3, Harpur Place, Bedford.
C. 1891-3.
- L. 1886 *GORDON, S. C., M.D.
- 1891 GOWANS, WILLIAM, M.D., F.R.C.S.Edin., Westoe House, Westoe, South Shields.
- 1890 GRAY, CLEMENT FREDERICK, M.R.C.S., L.S.A., Newmarket, Cambs.
- 1891 GREEN, W. O., M.D., 709, 2nd Street, near Chestnut, Louisville, Kentucky, U.S.A.
- F.F. †GRIFFITH, G. DE GORREQUER, L.R.C.P., M.R.C.S., *late Senior Physician to Hospital for Women and Children, Pimlico*, 34, St. George's Square, s.w., and New Indian Club, Whitehall Gardens, s.w.
- F.F. †GRIGG, W. CHAPMAN, M.D., M.R.C.P., *Physician to Queen Charlotte's Hospital, late Assistant Obstetric Physician to the Westminster Hospital*, 27, Curzon Street, Mayfair, w.
C. 1884-6 & 1892-4. Hon. Sec. 1886-7. V.P. 1888-90. Pres. 1891.
- L. 1885 †GRIMSDALE, THOMAS BABINGTON, B.A., M.B.Cantab., M.R.C.S., *Assistant Surgeon Hospital for Women, Liverpool*, 29, Rodney Street, Liverpool.
C. 1894-5.
- L. 1888 GUSZTAV, DIRNER, M.D., 9, Kossuth utopia, Buda-Pesth, Hungary.
- 1893 *GUTHRIE, ROBERT LYALL, M.A., M.B., C.M.Edin.
- 1885 HACKNEY, JOHN, M.D., M.R.C.S., L.S.A., Oaklands, Hythe, Kent.
- 1893 *HAHN, ADOLPH VON, M.D.
- 1895 †HALL, ALEX. CHORLEY, M.B.Ed., C.M., D.P.H., R.C.P.Ed., *Medical Officer, Islington Medical Mission*, 13, Windsor Street, Essex Road, N.
- 1895 HALL, E. A., M.D., C.M., Victoria, British Columbia.
- L. 1885 HALL, RUFUS B., M.D., 37, Crown Street, Walnut Hills, Cincinnati, U.S.A.

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- 1893 †HALL, WILLIAM WINSLOW, M.D., 195, Belsize Road, Kilburn, N.W.
- L. 1886 HANKS, HORACE TRACY, M.D., 766, Madison Avenue, New York, U.S.A.
- F.F. HARRIES, THOMAS DAVIES, M.R.C.P.Lond., F.R.C.S.Eng., *Surgeon Aberystwith Infirmary and Cardiganshire General Hospital*, Grosvenor House, Aberystwith.
- F.F. HASLAM, WM. DOIGE, M.D.Brux., M.R.C.S.Eng., L.S.A., Maywood, Christchurch Road, Bournemouth.
- F.F. †HAULTAIN, FRANCIS NICOL, M.D., F.R.C.P.Ed., *Physician for Diseases of Women, Royal Dispensary, Lecturer on Midwifery and Diseases of Women Edinburgh School of Medicine*, 17, Rutland Street, Edinburgh.
Hon. Loc. Sec.
- 1889 HAWKES, A. E., M.D., L.R.C.P.Edin., L.R.C.S.Eng., and L.M., 22, Abercromby Square, Liverpool.
- 1891 HAWKINS-AMBLER, G. A., F.R.C.S.Eng., 162, Upper Parliament Street, Liverpool.
- L. 1886 HEADLEY, W. BALLS, M.A., M.D., F.R.C.P., 4, Collins Street, Melbourne, Australia.
- 1887 HEALD, BENJAMIN GRAY, L.R.C.P.Ed., L.F.P.S.G., Red House, East Street, Leeds.
- F.F. †HEBERT, PAUL ZOTIQUE, M.D., C.M.McGill, L.R.C.P.Lond., 54, Berners Street, Oxford Street, W.
- L. 1885 HEIBERG, WILHELM, M.D., *Surgeon to the County Hospital of Copenhagen*, Frederiksberg, Copenhagen.
- L. 1887 HETHERINGTON, GEO. ALBERT, M.D., St. John, N.B., Canada.
- F.F. †HICKS, GEORGE BORLASE, M.R.C.S., L.M.Eng., L.R.C.S.Eng., 149, Amherst Road, Hackney Downs, N.E.
- 1891 †HILL, J. STONELY, M.B. and C.M.Eng., 33, Great Charlotte Street, Blackfriars, S.E.
- F.F. †HILLS, AUGUSTUS PHILLIPS, M.R.C.S.Eng., Carlton House, Prince of Wales Road, Battersea Park, S.W.
C. 1888-9.
- F.F. †HINE, ALFRED LEONARD, L.R.C.P.Lond., M.R.C.S., L.S.A., Eppingdale, Leytonstone Road, E.
C. 1891-2.
- 1887 HITCHINS, THOMAS J., M.R.C.S., L.R.C.P., &c., Broadfield, Crawley, Sussex.
- L. 1887 HOAG, JUNIUS C., M.D., 58, 43rd Street, Chicago.
- F.F. †HODGSON, ROBERT HUGH, L.R.C.P.Eng., M.R.C.S.Eng., 204, Rye Lane, Peckham, S.E.
C. 1894-5.
- F.F. †HOLLAND, EDMUND, M.D., M.R.C.P., F.R.C.S., *Physician to the Hospital for Women*, 1, Titchfield Terrace, North Gate, Regent's Park, N.W.
C. 1893-5.
- L. 1890 HOLMES, DR. H. R., Portland, Oregon, U.S.A.
- L. 1885 HOOPER, JOHN WILLIAM DUNBAR, L.R.C.P.Eng., L.R.C.S.Eng., *Surgeon to the Women's Hospital, Melbourne*, 54, Collins Street, East, Melbourne.
- L. 1886 *HOPKINS, JAMES B., M.D.
- 1895 †HOUGHIN, E. K., L.R.C.P. and S.Eng., L.S.A., District Surgeon, Royal Maternity Charity of London, Deputy Coroner, East London Division, Durham House, High Street, Stepney, E.

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- 1894 IMSCHOOT, FRITZ VAN, M.D., *Chargé du Cours de Clinique Chirurgicale, à l'Université de Gaud*, 8, Rue de la Monnaie, Gaud, Belgium.
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- F.F. JACKSON, THOMAS VINCENT, F.R.C.S.Edin., *Senior Surgeon to the Wolverhampton and Staffordshire General Hospital*, Whetstone House, Wolverhampton. C. 1884-6.
- 1886 JAGGARD, WILLIAM WRIGHT, M.D., 2910, Indiana Avenue, Chicago, Ill., U.S.A.
- 1895 †JAMES, STANLAKE, L.R.C.P., M.R.C.S., Hospital for Women, Soho Square, W.
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- 1885 JAMIESON, ROBERT ALEXANDER, M.D.Q.U.I., Shanghai, China.
- 1894 †JARDINE, JAMES, M.B.Edin., C.M., 30, Sheen Road, Richmond, Surrey.
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- 1887 †JESSETT, FREDERICK BOWREMAN, F.R.C.S.Eng., *Surgeon to the Cancer Hospital, Brompton*, 1, Buckingham Palace Mansions, Grosvenor Gardens, S.W. C. 1891-2 & 1894-5. Pres. 1893.
- L. 1885 JEWETT, CHARLES, M.D., 330, Clinton Avenue, Brooklyn, U.S.A.
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- L. 1886 JOHNSTONE, ARTHUR W., M.D., Madisonville Road, Cincinnati, Ohio.
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- 1894 JONES, D. MARINUS, M.D., M.Ch.Edin., Beechwood, Victoria Road, Aldershot.
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- 1895 †JONES, J., L.R.C.P., M.R.C.S., Northcote, Lennard Road, Penge, s.e.
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- 1893 JORDAN, JOHN FURNEAUX, M.B.R.U.I., F.R.C.S.Eng., *Surgeon Women's Hospital, Birmingham*, 114, Edmund Street, Birmingham.
- 1885 JOUBERT, CHARLES HENRY, M.B.Lond., F.R.C.S.Eng., *Surgeon Lieut. Colonel I.M.S., Professor of Midwifery and Obstetric Physician, Medical College, Calcutta*, 6, Harrington Street, Calcutta.
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- 1886 KELLETT, ROBERT GUY, L.K.Q.C.P.I., The Pritchards, Halstead, Essex.
- L. 1889 KELLOGG, J. H., M.D., Battle Creek, Michigan, U.S.A.
- 1891 †KEMPSTER, WM. H., M.B.Durh., 2, Queen Anne Terrace, Albert Road, Battersea Park, s.w.
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- F.F. †KENNEDY, JOHN BLYDESTYN, M.R.C.S.Eng., L.S.A., Stratford Hall, Romford Road, Stratford, E.
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- L. 1886 KING, ALBERT F. A., M.D., 1315, Mass. Avenue, N.W., Washington, D.C., U.S.A.
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- 1890 †LANGLEY, AARON, L.R.C.P.Edin. and L.M., L.R.C.S.Edin., 149, Walworth Road, s.e.
- 1890 LANKFORD, Dr. LIVIUS, Norfolk, Virginia, U.S.A.
- L. 1886 †LAWRIE, JAS. MACPHERSON, M.D., *Physician to the Weymouth Sanatorium*, Greenhill, Weymouth. C. 1894-5.
- 1894 LEAHY, ALBERT WILLIAM DENIS, M.D.Durh., F.R.C.S., *Officiating Professor of Midwifery and Obstetric Physician Eden Hospital, Calcutta*, 6, Elysium Row, Calcutta.
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- 1889 LEIGH, W. W., L.R.C.P.Edin., M.R.C.S.Eng., L.S.A., Glyn Bargoed, Trecharris, R.S.O., South Wales.

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- F.F. †LIGERTWOOD, THOMAS, M.D., F.R.C.S.Edin., Royal Hospital, Chelsea, S.W. C. 1892-3.
- 1891 LLOYD, H. J., L.R.C.P.Edin., L.F.P.S.Glas., Tyncoed, Barmouth, North Wales.
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- 1895 †LUCEY, W. C., M.D.Aberd., M.R.C.S., Penrose, Roslyn Hill, Hampstead, N.W.
- L. 1885 LUSK, WILLIAM T., M.D., 47, East Thirty-fourth Street, New York, U.S.A. V. P. 1887-9.
- 1894 LUTAUD, AUGUSTE, M.D.Paris, 35, Boulevard Haussmann, Paris.
- F.F. †LYCETT, JOHN ALLAN, M.D. St. And., M.R.C.P.Edin., *Surgeon Wolverhampton and District Hospital for Women*, Gatcombe, Wolverhampton. Hon. Loc. Sec. C. 1889-91.
- F.F. MACAN, ARTHUR VERNON, B.A., M.B.Dub., M.Ch., M.A.O., F.R.C.P.I., *King's Professor of Midwifery, Trinity College: Obstetric Physician Sir P. Dun's Hospital; Ex-Master of the Rotunda Hospital, Dublin*, 53, Merrion Square, Dublin. V.P. 1887-8. Pres. 1889. C. 1890-2.
- L. 1885 †MACAN, JAMESON JOHN, M.A., M.D.Cantab., M.R.C.S., 62, George Street, Portman Square, W. C. 1895.
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- L. 1888*MACPHATTER, N. LINCOLN, M.D.
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 C. 1892.
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 1894 MORLAND, CHARLES HENRY DUNCAN, M.B., B.S.Durh., M.R.C.S., 5, Dumfries Place, Cardiff.
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 F.F. †MOULLIN, J. A. MANSELL, M.A., M.B.Oxon., M.R.C.P., *Physician to the Hospital for Women, Soho, Assistant Physician for Diseases of Women to the West London Hospital*, 69, Wimpole Street, w. C. 1884-6. Hon. Sec. 1887-8. V.P. 1889-91. Libr. 1892. Treas. 1893-5.
 L. 1885 MUNDÉ, PAUL F., M.D., *Professor of Gynaecology at the New York Polyclinic, and at Dartmouth College*, 20, West Forty-Fifth Street, New York, U.S.A. V.P. 1889.

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- 1887 †MURRAY, CHARLES STORMONT, L.R.C.S.Edin., L.S.A., L.M.Ed., *Anæsthetist Samaritan Hospital*, 85, Gloucester Place, Portman Square, w.
- 1885 MURRAY, ROBERT MILNE, M.A. St. And., M.B.Edin., F.R.C.P.Edin., F.R.S.E., *Assistant Physician Maternity Hospital; Lecturer on Midwifery and Gynecology, Edinburgh School; Physician for Diseases of Women to the Western Dispensary*, 10, Hope Street, Edinburgh. C. 1886-8.
- 1891 MURRAY, W., M.D., F.R.C.P., *Consulting Physician Newcastle-on-Tyne Hospital for Sick Children*, 9, Ellison Place, Newcastle on-Tyne.
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- 1895 †NAPIER, T. W. A., M.D., M.C., *Hon. Surgeon Seacombe Cottage Hospital and Wallasey Dispensary*, Darlington House, Egremont, near Liverpool.
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- 1891 NEDWILL, COURTNEY, M.D., Christchurch, Canterbury, New Zealand.
- L. 1886 NELSON, DANIEL THURBER, M.D., 2400, Indiana Avenue, Chicago, U.S.A.
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- L. F.F. NEUGEBAUER, FRANZ, M.D., *Directeur de l'Hôpital Evangelique*, Leszno, 33, Warsaw, Russia (Poland). V.P. 1887-9.
- F.F. †NUNN, T. W., F.R.C.S., *Consulting Surgeon Middlesex Hospital*, 8, Stratford Place, w. C. 1884. V.P. 1886-8.
- F.F. †NUTT, WILLIAM ANTHONY, L.S.A.Lond., Craven House, Northumberland Avenue, w.c.
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- L. 1889 †O'CALLAGHAN, ROBERT, L.R.C.P., F.R.C.S.I., *Surgeon Chelsea Hospital for Women*, 137, Harley Street, w. C. 1891-3.
- 1885 O'DONNELL, THOMAS J., L.K.Q.C.P.I., L.M., L.R.C.S.I., *Surgeon-Major Army, Oorgaum, Mysore State, India.*

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- 1885 †ORAM, RICHARD R. W., L.R.C.P.Lond., M.R.C.S.E., *Cermyll, Wandsworth Common*. C. 1890-2.
- 1893 OSBURN, CECIL A. P., F.R.C.S.Ed., L.R.C.P.Ed., *The Oaks, Hythe, Kent*.
- L. 1889 OSTROM, H. J., M.D., 42, West 48th Street, New York, U.S.A.
- 1895 †OSWALD, H. R., M.D.Edin., C.M., *Barrister-at-Law, Deputy Coroner for Central and West London Districts*, 15, Thurloe Place, S.W.

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C. 1891-3. V.P. 1895.
- F.F. RAWLINGS, JOHN ADAMS, M.R.C.P.Edin., M.R.C.S.Eng., *Physician to the Swansea Hospital, Preswylfa, Swansea.*
C. 1888-9.
- L. 1887 REED, CHARLES A. L., M.D., *Professor of Gynecology and Abdominal Surgery at the Cincinnati College of Medicine and Surgery, and Surgeon to the Cincinnati Free Surgical Hospital for Women, Cincinnati, Ohio.*
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C. 1884-6. V.P. 1892-4.
- F.F. REID, W. LOUDON, M.D.Glas., F.F.P.S.Glas., *Professor of Midwifery and Diseases of Women and Children, Anderson's College, Glasgow, Physician to Dispensary for Diseases of Women, Western Infirmary, 7, Royal Crescent, Glasgow.*
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- L. 1888 RICKETTS, E. S., M.D., 93, East Fourth Street, Cincinnati, Ohio, U.S.A.
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C. 1884. V.P. 1886-8.
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- F.F. ROOTS, WILLIAM HENRY, M.R.C.S.Eng., Canbury House, Kingston-on-Thames.
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- L. F.F. RUSSELL, LOGAN D. H., M.D., M.R.C.S., Government Park, St. Catherine, Jamaica.
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C. 1884-6, 1895. V.P. 1889. Pres. 1894.

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- L. 1886 SAWYER, EDWARD WARREN, M.D., 3733, Vincennes Avenue, Chicago, U.S.A.
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- 1887 †SHAW, JOHN, M.D.Lond., M.R.C.P.Lond., *Obstetric Physician and Gynecologist, North-West London Hospital*, 34, Queen Anne Street, w.
C. 1888-90. Hon. Sec. 1895.
- 1895 †SHAW-MACKENZIE, A. C., L.S.A., 20, Melinda Road, Fulham, S.W.
- 1891 †SHAW-MACKENZIE, J. A., M.B.Lond., *late Physician to Out-Patients, and Pathologist Chelsea Hospital for Women*, 24, Savile Row, w.
C. 1893-5.
- 1889 †SIMPSON, ALEXANDER RUSSELL, M.D., F.R.C.P.Edin., F.F.P.S.Glas., F.R.S.E., *Professor of Midwifery and Diseases of Women, Edinburgh University, Physician for Diseases of Women, Royal Infirmary and Maternity Hospital*, 52, Queen Street, Edinburgh.
V.P. 1890-2. Pres. 1892. C. 1893-5.
- 1885 SIMPSON, JAMES HERBERT, M.D.Aberd., Hillmorton Road, Rugby.
C. 1887-9.
- 1885 †SINCLAIR, WILLIAM JAPP, M.A., M.D.Aberd., M.R.C.P.Lond., *Professor of Obstetrics and Gynecology, Owens College, Physician to the Manchester Southern Hospital for Diseases of Women and Children*, 268, Oxford Road, Manchester.
C. 1887-9, 1893-4. V.P. 1890-2.
- L. 1885 SKENE, ALEXANDER J. C., M.D., 167, Clinton Street, Brooklyn, N.Y., U.S.A.
- F.F. †SLIMON; WILLIAM, M.B.Glas., F.F.P.S.Glas., 566, Mile End Road, Bow, E.
- 1886 SLOAN, SAMUEL, M.D., F.F.P.S.Glas., *Consulting Physician to the Glasgow Maternity Hospital*, 5, Somerset Place, Sauchiehall Street West, Glasgow.
C. 1889-91.
- L. 1887 SMART, DAVID, M.B., B.Sc.Edin., *Assistant Surgeon, Hospital for Women, Liverpool*, 74, Hartington Road, Liverpool.
- 1889 SMITH, ALFRED J., M.B.R.U.I., M.Ch., M.A.O., *Professor of Midwifery and Diseases of Women, Catholic University, Dublin, Gynecologist St. Vincent's Hospital*, 32, Lower Baggot Street, Dublin.
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Hon. Sec. 1884-5. C. 1889-91. V.P. 1892-4.
- 1886 SMITH, JAMES GREIG, M.A., M.B. & C.M., F.R.S.E., *Professor of Surgery, University College, Bristol, Surgeon to the Bristol Infirmary*, 16, Victoria Square, Clifton, Bristol.
C. 1887-9. V.P. 1890-2.

- Elected.
 1891 SMITH, J. W., M.D., Balgonie House, Ryton-on-Tyne, Durham.
- F.F. †SMITH, RICHARD T., M.D., M.R.C.P., *Physician to the Hospital for Women, Soho*, 17, George Street, Hanover Square, w.
 C. 1884-6. Hon. Sec. 1889-90. V.P. 1891-3.
- F.F. SMYLY, W. JOSIAH, M.D., T.C.D., F.R.C.P.I., F.R.C.S.I., *Master of the Rotunda Hospital, Examiner in Midwifery R.C.P.I.*, Dublin, 56, Fitzwilliam Square, Dublin.
 C. 1888-90. V.P. 1892-4.
- F.F. SMYTH, BRICE, B.A., M.B., M.Ch., T.C.D., *Consulting Physician Hospital for Sick Children, Physician Belfast Lying-in Hospital*, 13, College Square, Belfast. C. 1887-9. V.P. 1889-91.
- 1893 †SMYTH, JOHN WALKER, L.R.C.P. & S.Edin., 13, Colebrooke Row, City Road, n.
- F.F. †SPANTON, W. DUNNETT, F.R.C.S.Edin., *Surgeon to the North Staffordshire Infirmary*, Chatterley House, Hanley, Staffordshire. C. 1887-9. V.P. 1890-92.
- F.F. †STEER, WILLIAM, M.R.C.S., L.S.A., *Medical Superintendent, Fulham Union Infirmary*, Fulham Palace Road, Hammersmith, w.
- 1889 STEKOULIS, CONSTANTIN, M.D., Péra, Rue Souterazi 7, Constantinople.
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- 1885 STEVENSON, EDMUND SINCLAIR, M.D., F.R.C.S.E., Cape Town, Cape of Good Hope.
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- 1893 †STONEY, RALPH, L.R.C.S.I., L.R.C.P.I., 395, Bethnal Green Road.
- L. 1885 STRANGE, FREDERICK WILLIAM, M.R.C.S.Eng., M.C.P. & S. Ontario, 218, Simcoe Street, Toronto.
- 1886 †STRANGE, W. HEATH, M.D., 5, Grosvenor Street, w.
- L. 1892 SULLIVAN, W. H. D., 80, Collins Street, Melbourne, Victoria.
- 1885 †SUNDERLAND, SEPTIMUS, M.D., M.R.C.S., L.R.C.P.Lond., *Physician to the Royal Hospital for Women and Children*, 36, Bruton Street, w.
 C. 1894-5.
- L. 1885 SUTTON, RHOADS STANBURY, M.D., 419, Penn Avenue, Pittsburgh, U.S.A.
- F.F. SWAIN, W. PAUL, F.R.C.S., *late Surgeon Royal Albert Hospital, Devonport*, 17, The Crescent, Plymouth. C. 1884-6.
- 1893 SWANTON, JAMES HUTCHINSON, M.D., M.Ch., &c., R.U.I., Church Street, Edmonton, Middlesex.
- F.F. SWAYNE, JOSEPH GRIFFITHS, M.D.Lond., *Consulting Physician-Accoucheur Bristol General Hospital*, 74, Pembroke Road, Clifton, Bristol. V.P. 1886-8.
- L. 1888 SWEETNAM, LESLIE MATTHEW, M.D., Toronto, Canada.
- L. F.F. TAIT, LAWSON, F.R.C.S., *Consulting Surgeon to the Birmingham and Midland Hospital for Women*, 7, The Crescent, Birmingham. V.P. 1884-5. Pres. 1886. C. 1887-9.
- L. F.F. TAYLER, WILLIAM HENRY, M.D. St. And., M.R.C.S.Eng., *care of Dr. Gambier, Eversfield Hospital, West Hill, St. Leonards (travelling)*.

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- L. F.F. †TAYLOR, JOHN WILLIAM, F.R.C.S., *Surgeon to the Birmingham and Midland Hospital for Women*, 59, Bath Street, Birmingham.
C. 1891-3. V.P. 1894-5.
- F.F. TEMPLE, THOMAS CAMERON, M.R.C.S., L.S.A., *Sheffield, Beds.*
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- L. 1889 TOWNSEND, FRANKLIN, Jun., M.D., 2, Park Place, Albany, N.Y., U.S.A.
- 1895 TRAVERS, F. T., M.B., B.S.Lond., West Kent General Hospital, Maidstone, Kent.
- 1892 †TRAVERS, W., M.D., F.R.C.S., *late Physician to the Chelsea Hospital for Women*, 2, Phillimore Gardens, W. C. 1894-5.
- L. 1889 TUOHY, JOHN FRANCIS, M.D., M.Ch., *Surgeon-Major I.M.S.*, Civil Surgeon, Saharunpur, N.W. Provinces, India.
- L. 1887 UNDERWOOD, EDWARD F., M.D., Port Bombay, India.
- L. 1885 VAN DER VEER, ALBERT, M.D., 28, Eagle Street, Albany, New York, U.S.A.
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- L. F.F. †WALLACE, JOHN, M.D., *Obstetric Physician, Liverpool Royal Infirmary, Professor of Midwifery and Gynecology, University College, Liverpool*, 1, Gambier Terrace, Hope Street, Liverpool.
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- L. F.F. †WALTER, WILLIAM, M.A., M.D.Dub., F.R.C.S.I., *Physician to St. Mary's Hospital, Manchester*, 20, St. John Street, Manchester.
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- 1891 WARD, J. L. W., J.P., L.R.C.P., Merthyr Tydvil, Glamorganshire.
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- 1889 WEBSTER, THOS. J., M.R.C.S.Eng., L.S.A., Brynglas, Merthyr Tydvil, S. Wales.
- 1895 WEBSTER, J. CLARENCE, B.A., M.D.Ed., F.R.C.P.Ed., *Assistant to Professor of Midwifery, University, Edinburgh*, 20, Charlotte Square, Edinburgh.
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- 1894 WHITE, CRESSWELL FITZHERBERT, M.B., C.M.Aber., L.S.A., Milborne-Port, Sherborne, Dorset.

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 L. 1888 WILLIS, C. FANCOURT, M.D., M.R.C.P., Quetta, Baluchistan.
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 1895 WILSON, G. T., M.A.Oxon., M.B.Durh., 14, St. Giles', Oxford.
 L. 1886 WILSON, H. P. C., M.D., *Gynaecologist to St. Vincent's Hospital*,
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 1894 †WYSARD, ALEXANDER THOMAS, M.R.C.S., L.R.C.P.Lond., Malabar,
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 1895 †YARROW, GEORGE E., M.D.Heidelberg, L.R.C.P., *Surgeon-Accoucheur*
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 1895 †YOUNG, ADAM, L.R.C.P., M.R.C.S., 2, College Crescent, South
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 1895 †YOUNGER, E. G., M.D.Bru.x., M.R.C.P.Lond., M.R.C.S., *Physician*
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 Mecklenburgh Square, W.C.
 1891 ZINCKE, GUSTAV, M.D., 413, Elm Street, Cincinnati, U.S.A.

LOCAL LIST.

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Aberdeen.

Findlay, W., M.A., M.B.
Galloway, A. R., M.A., M.B.

Aberystwith.

Harries, T. D., M.R.C.P., F.R.C.S.

Albany, U.S.A.

Boyd, J. P., M.D.
Townsend, F., Jun., M.D.
Van der Veer, A., M.D.

Aldershot.

Jones, D. M., M.D.

Alexander City, U.S.A.

Goggans, J. A., M.D.

Amsterdam, Holland.

Mendes de Leon, M.A., M.D.

Bâle, Suisse.

Fehling, Professor, M.D.

Baltimore, U.S.A.

Wilson, H. P. C., M.D.
Wilson, R. T., M.D.

Barmouth.

Lloyd, H. J., L.R.C.P.E.

Bedford.

Goldsmith, G. P., M.D.
Lloyde, J. H., L.R.C.P. & S.

Belfast.

Aickin, W., M.D.
Boyd, J. St. Clair, M.D.

Byers, J. W., M.A., M.D.
Campbell, J., M.A., M.D., F.R.C.S.
Dempsey, A., M.D., L.R.C.S.I.
Dickey, S., M.D.
Mackenzie, W. G., F.R.C.S.E.
Smyth, B., B.A., M.B.

Bengal, India.

Tuohy, J. F., M.D., I.M.S.

Berlin.

Martin, A., M.D.

Birmingham.

Jordan, J. F., M.B., F.R.C.S.
Martin, Christopher, M.B., F.R.C.S.
Savage, T., M.D., M.R.C.P., F.R.C.S.
Tait, L., F.R.C.S.
Taylor, J. W., F.R.C.S.
Thomas, H., M.R.C.S.

Birmingham, Alabama, U.S.A.

Davis, W. E. B., M.D.

Blenheim, N.Z.

Cleghorn, George, M.D.

Blyth.

Cromie, John, L.R.C.P. & S.

Bombay, India.

Underwood, E. F., M.D.

Bonar Bridge, N.B.

Macpherson, C., M.D.

Boston, U.S.A.

Baker, W. H., M.D.
Bigelow, H. R., M.D.

Bournemouth.

Haslam, W. D., M.D.
 Ramsay, F. W., M.D.
 Scott, T. B., M.R.C.S.

Brighton.

Whittle, E. G., M.D.

Bristol.

Smith, J. G., M.A., M.B., C.M.
 Swayne, J. G., M.D.

Brooklyn, U.S.A.

Jewett, C., M.D.
 Skene, A. J. C., M.D.

Brussels.

Küfferath, Prof., M.D.

Buda Pesth, Hungary.

Gusztav, Dirner, M.D.

Buxton.

Armstrong, W., M.R.C.S.

Calcutta, India.

Harvey, R., M.D.
 Joubert, C. H., M.B., F.R.C.S.
 Leahy, A. W. D., M.D., F.R.C.S.

Camden, Gloucestershire.

Johnson, J. B., M.D.

Cape Town, S. Africa.

Stevenson, E. S., L.R.C.P., &c.
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Cincinnati, U.S.A.

Hall, R. B., M.D.
 Johnstone, A. W., M.D.
 Reed, C. A. L., M.D.
 Ricketts, E. S., M.D.
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Wood, J., M.D.

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Keating, J. M., M.D.

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Stekoulis, C., M.D.

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Parkinson, J. T., M.D.

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Bagot, W. S., M.D.
 Macphatter, N. L., M.D.

Detroit, U.S.A.

Carstens, J. H., M.D.
 Manton, W. P., M.D.

Devonport.

Rae, George A., L.R.C.P. & S.

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Cranny, J. J., M.D., F.R.C.S.I.
 Kennedy, H. B., L.R.C.S.I.
 Macan, A. V., M.B., M.Ch., M.A.O.
 Purefoy, R. D., M.D.
 Smith, A. J., M.B., M.A.O.
 Smyly, W. J., M.D., F.K.Q.C.P.I.

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Eastes, Thomas, M.D.
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Barter, Wm., M.D.

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Bayfield, H. O., L.R.C.P.E.

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Bertolacci, J. H., L.S.A.

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Blacker, A. B., M.D.

Blake, Ed., M.D.

Bourke, W. H., M.D.

Bourns, N. W., M.D.

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Carter, George Roe, M.R.C.P.I.

Carvell, J. M., L.S.A.

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